EFFECTIVENESS OF SOYA MILK UPON MENOPAUSAL SYMPTOMS

By

G.LOURDS BEMI

A DISSERTATION SUBMITTED TO THE TAMILNADU DR.M.G.R.MEDICAL UNIVERSITY, CHENNAI, IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF SCIENCE IN NURSING

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DECLARATION

I hereby declare that the present dissertation entitled **"Effectiveness of Soya milk upon Menopausal symptoms among Menopausal women"** is the outcome of the original research work undertaken and carried out by me, under the guidance of **Dr. Latha Venkatesan,** M.Sc (N)., M.Phil., Ph.D., Principal, Apollo College of Nursing, **Ms. Shobana Gangadharan**, M.Sc (N)., Professor, Community Health Nursing, Apollo College of Nursing, Chennai. I also declare that the material of this has not formed in any way, the basis for the award of any degree or diploma in this university or any other universities.

II Year M.Sc (N)

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SYNOPSIS

An Experimental Study to Assess the Effectiveness of Soya milk upon Menopausal symptoms among Menopausal women in Selected wards of Thiruverkadu Township.

Objectives of the Study

1. To assess the prevalence of menopausal symptoms among menopausal women in selected wards of Thiruverkadu township.
2. To assess the level of knowledge regarding menopause in control and experimental group of menopausal women.
3. To determine the effectiveness of soya milk by comparing the menopausal symptoms in control and experimental group of menopausal women.
4. To determine the level of satisfaction regarding the administration of soya milk in the experimental group of menopausal women
5. To identify the association between selected demographic variables and the menopausal symptoms in control and experimental group before and after administration of soya milk.
6. To find out the association between selected clinical variables and menopausal symptoms before and after administration of soya milk in the control and experimental group of menopausal women.

The conceptual framework of the study was developed on the basis of Lydia hall Core, Care, and Cure model. Null hypothesis was formulated. The level of significance selected was $p<0.05$.

An extensive review of literature and guidance by experts formed the foundation to the development of study instruments.

An experimental approach was adopted. The study was conducted at Rajankuppam, Chennai. Simple random sampling was chosen where lottery method was used to assign the subjects 30 in control and 30 in experimental group.

The study instruments are demographic variables, clinical variables, structured knowledge questionnaire, rating scale on level of menopausal symptoms and level of satisfaction regarding administration of soya milk. The data collection tools were validated and the reliability was established. The main study was conducted after the determination of feasibility and practicability through pilot study. Survey method was used to assess the prevalence of menopause. After which menopausal symptoms where assessed in control and experimental group using rating scale. Menopausal women in the experimental group were administered (house to house) 100 ml of soya milk in midmorning daily for 4 weeks .At the end of 4 weeks symptoms were assessed for both control and experimental group by using rating scale. The level of satisfaction on administration of soya milk was assessed by using the rating scale in the experimental group. The collected data were tabulated and analyzed using descriptive and inferential statistics.

Major findings of the study

- The prevalence of menopausal symptoms were assessed, among them there were totally 102 women who attained menopause, among them 21.15% had no

symptoms, 78.84% had menopausal symptoms and 90% had natural menopause and 10 % had surgical menopause.

- Majority of the menopausal women in both control and experimental group were married (100%, 96.66%),educated up to primary school (63.33%, 70.00%), homemakers (90%, 80%), moderate workers (100%,73.33%) with monthly income Rs10,000 and above (56.67%,33.33%), non vegetarians (80%, 93.33%), and living in joint families (70%, 86.67%). Significant percentage of them were between 51-55years of age (36.67%, 43.33%), most of them in (53.33%) the control group and 86.67 % of the experimental group women were Hindus.
- Majority of the menopausal women had body mass index between 18.5-24.9 (86%, 83.33%), body temperature of 98.6-99^{o} F (90%, 80%), pulse rate of 72-82 beats/min (86.67%, 93.33%), systolic blood pressure of 120-140 mmHg (80%, 83.33%), diastolic blood pressure of 80-90 mmHg (86.67%, 93.33%), attained menopause before 1-3 years (100%, 96.67%), and most of them had natural menopause (83.33%, 90%), in control and experimental group respectively.
- Most of the menopausal women had moderate level of menopausal symptoms in both control and experimental group before administration of soya milk (70%, 66.67%). Whereas majority of them experienced mild level of symptoms (70%) in experimental group after administration of soya milk.
- The knowledge regarding menopause was found inadequate (60%, 56.67%) in control and experimental group of menopausal women.

- Majority of the menopausal women in experimental group were highly satisfied with administration of soya milk (83.3%) and 16.7% of them were satisfied with administration of soya milk.
- The difference in mean and standard deviation of physiological symptoms (M=18.9, 20.8, SD=3.53, 2.80) and psychological symptoms (M=20.16, 20.46, SD= 2.32, 3.56) before administration of soya milk between control and experimental group of menopausal women is not statistically significant ($p<0.05$).Whereas the difference in mean and standard deviation of physiological symptoms (M=18.7, 14.4, SD=3.54, 4.66) and psychological symptoms (M=20.16, 13.56, SD= 2.40, 4.81) after administration of soya milk between control and experimental group of menopausal women is statistically significant ($p<0.001$). There is significant reduction of physiological and psychological symptoms in experimental group after soya milk administration which can be attributed to the effectiveness of soya milk. Hence null hypothesis H_{o1} was rejected.
- In experimental group there was significant association between selected demographic variables and menopausal symptoms after administration of soya milk hence null hypothesis Ho_2 was rejected with regard to age.
- In experimental group there was significant association between selected clinical variables and menopausal symptoms after administration of soya milk hence null hypothesis Ho_3 was rejected with regard to body mass index, body temperature and type of menopause.

- In control group there was no significant association between selected demographic variables and menopausal symptoms before and after administration of soya milk hence the null hypothesis Ho_2 was retained.
- In control group there was no significant association between selected clinical variables and menopausal symptoms before and after administration of soya milk in control group hence the null hypothesis Ho_3 was retained.

Recommendations

- A similar study could be conducted on larger sample for better generalization
- The study could be replicated in hospitals for hysterectomy clients.
- A study can be conducted on effectiveness of alternative therapies in reducing the severity of menopausal symptoms.

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Introduction

CHAPTER I

INTRODUCTION

Background of the study

"There is no more creative force in the world than the menopausal women with zest"

- Margaret mead

Life satisfaction usually termed as "happiness'' is the prime factor which contributes to happiness in life and is called "good health''. Women play a vital role in contributing and preparing responsible citizens for the nation. The health of the women is an important component not only during reproductive years but also through out the course of her life. Women's health focuses on the physical, psychological and social needs.

Women play an important role in replenishing the earth but her reproductive capacity is not permanent it ceases one day. The cessation of reproductive capacity is coined as "menopause".

The word "Menopause" literally means the "end of monthly cycles. It is the permanent cessation of menses associated with declining ovarian function. A woman's ovaries have two hormones estrogen and progesterone, when these hormones are out of balance, hormone related illness can emerge, due to ovulatory cycles, progesterone levels typically decline before menopause starts which in turn is followed by decline in estrogen. Progesterone production tends to fall to almost zero where estrogen declines to about 40-50%.

The data of a multi-centric study conducted by the Indian Menopause Society across the country shows that the menopausal age among women is now between 47 and 52 years as against the previous 40-45 years. Lifestyle changes, improvement in nutrition and increasing obesity are the reasons, say experts.

According to Indian menopausal society the number of menopausal women comes in around 43 million and would include women between the ages of 40 to 60 in India, World Menopause Day is observed on 18th October every year. World Menopause Day started all the way back in 1984. Indian menopause society was started in 1995.

Due to hormonal changes women notice hot flush, night sweat, insomnia, vasomotor changes. They may vary in intensity from a barely perceptible warm feeling to sensation of extreme warmth accompanied by profuse sweating, causing discomfort, sleep disturbance and subsequent fatigue. The entire genito urinary system is affected by the reduced estrogen level. Changes in the vulvo vaginal area may include a gradual thinning of pubic hair and a gradual shrinkage of the labia. Vaginal secretions decrease and women may report dysparunia.

The medical treatment for menopausal symptoms is hormonal replacement therapy. It improving the quality of life of menopausal women by reducing menopausal symptoms and osteoporosis, but there is chance to increase the risk of developing certain malignancies in particularly breast and gynecological cancers.

Hormonal replacement therapy is a costly treatment to rural women and they have fear of side effects they automatically turn towards the home remedies, alternative

and complementary therapies. The community health nurse should play major role to create awareness about menopause and various cost effective remedies to reduce the menopausal symptoms during her home visits.

Joseph & Calano (2002) implies in alternative and complementary healing practices according to NCCAM, complementary and alternative therapies are not commonly included in or used by conventional medicine. Six categories of complementary and alternative therapies are subdivided into practices. 1) Alternative medical system 2) mind – body intervention 3) energy therapies 4) special diet therapies 5) manipulative and body based methods 6) phyto therapy or herbalism. Soya milk is a supplement to the menopausal women, soya is a natural food which is include in Indian foods.

Soy isoflavones are referred to as phytoestrogens and have the most potent estrogen like activity of all common phyto estrogens Soy beans and other legumes contain isoflavones and are an important source of dietary phyto estrogens. There are many different isoflavones found in plants. The isoflavones with the most estrogen like actions are daidzein, genistein formononetin and biochanin. They are found in differing amounts in various legumes. Soya contains daidzein, genistein and glycitein.

Cross sectional observation in south East Asian population with moderately high intake of soya bean isoflavone (50 mg/d) have shown that women in the high quartile of intake have higher bone mineral density and reduced bone turn over. The beneficial effects of other areas include reducing the cardio vascular risk through their beneficial effects on blood lipids.

Soya has many medicinal purposes, it is used to treat the premenstrual symptoms, reduce the risk of osteoporosis, and lower the blood pressure. The women need to have awareness of menopausal symptoms and its causes, prevention and its management in order to improve the quality of their life.

In addition to the healing power of isoflavones, soya is also high in antioxidants, omega-3's, and protein. Plus, it's low on the glycemic index. Soya is a high quality protein. It is one among two known plant foods which contain all the essential amino acids.

The study was conducted to assess the effect of soya milk in the menopause by Phani et al in 2009. With the sample of 203 women with menopausal symptoms. The women were divided by random allocation into 3 groups for receiving 25 g of soya protein without isoflavones, 25 g of soya protein with 90 mg of isoflavones, and 25 g of protein control) for 4 weeks respectively. The researcher concluded that soya protein with isoflavone was effective, can be taken as supplementation.

The global scenario is now changing towards the use of non toxic plant products having traditional medicinal use. For the last few years there has been an increasing trend and awareness in to use supplementation foods. Soya is a naturally, easily available anywhere and it is found to be safe to use. isoflavone is important active compound of soya it has medicinal properties that will treat the menopausal symptoms.

Need for the Study

In India one fifth of women aged 40-41 have reached menopause and the prevalence of menopause increases rapidly there after to 65% at the age 48-49 (National Family Health Survey 2005-2006). In the western world typical age range for menopause is between the ages of 40 and 60 the average age for last period is 51 years. However in some developing countries like Indonesia and Philippines, the median age of natural menopause is considerably earlier at 44 years.

Likewise menarche and menopause is also a milestone event in a women's life however no celebration earmark menopause. Especially in south Indian culture were menarche is celebrated with all pomp and pleasure inviting the family members to bless the girl though the culture does not mark menopause as an event, it is a period of transition in every women life regardless of their social and economic status.

Although literature highlights many key characteristics and experience of menopausal women in general, there is limited information about menopause experiences of women living in rural areas. Living in a rural environment can complicate the menopause experience for several reasons including geographical locations, lack of confidentiality anonymity, stressed by multiple roles, poverty, limited health care and support services. Leipert & Reutter (2005).

Menopause currently affects the lives of millions of women globally and will be an issue of increasing concern as the population increases over the next few decades. Menopause is a complex time in a woman's life, leading to both physical and emotional challenges.

Various studies have been conducted world wide to reduce the menopausal problems. Hormone replacement therapy is being considered as the treatment approach to relieve menopausal problems, becoming the most common risk factor for some of the disease like breast cancer, uterine cancer, ovarian cancer, colorectal cancer, venous thrombosis, and dementia including Alzheimer's disease. It was found in the study conducted among 241 post menopausal women from 1996-2006. The women selected did not have hysterectomy, ovarian surgery or cancer. Women who used estrogen only for 10 or more years had 80% higher risk of ovarian cancer than women who had never used hormone therapy; women who used estrogen alone for 20 or more years had a 220% higher risk than women who had never used hormone therapy.

Menopausal problems affect about 70% of women approaching menopause. The symptoms of menopause usually last for the whole menopause transition (until the mid 50s), but some women may experience them for the rest of their lives. The most common symptoms are: Hot Flushes, Night Sweats, Irregular Periods, Loss of Libido, and Vaginal Dryness, Anxieties, difficulty in concentrating, overreacting to minor upsets, quickly being irritated, forgetfulness and mood swings, insomnia or disturbed sleep may also be experienced. The chance of incontinence increases with age and there is evidence that estrogen loss plays a role.

Evelin et al. (2000) measured the effects of a standardized soy extract on hot flushes among 75 menopausal women who attained natural or surgical menopause suffering from at least 7 hot flushes per day. They were randomized to receive either soya isoflavone extract or placebo for 4 months. Results showed that 38% reduction in the mean number of hot flushes by week 4 and a 51% reduction by week 12, the end of

week16, patient taking soy extract had 61% reduction in their daily hot flushes versus a 21% reduction obtained with the placebo. Hot flushes were reduced by 65.8% at the end of treatment period in soy extract group and 34.2% in the placebo group ($p<0.005$). Soya protein is available, accessible by community. Treatment period in soy extract group and 34.2% in the placebo group ($p<0.005$). Soya protein is available, accessible to the community.

In Indian scenario, from birth to till death all stage is celebrated like birth, adolescent period menarche, marriage but at the stage of adult women doesn't get much importance from herself and others. Women hesitate or neglect to discuss the physiologic and psychological changes and due to family commitments she avoid to aid pharmacological management therefore automatically she turn towards home remedies which is alternative and complementary therapies because of its cost effective (without side effects).

As health care professional community health nurse create awareness to menopausal women during home visits, and educate the various supplementation like soya to reduce menopausal symptoms. Soya rich in protein, omega 3, its phyto oestrogen Isoflavone plays main role to reduce menopausal symptoms, osteoporosis, increase bone mineral density, reduce cardio vascular risk.

Likewise many complementary and alternative therapies are useful for reducing the menopausal symptoms. But soya milk is very essential as well as used as an alternative for treating various illness and menopausal symptoms.

As a community health nurse, the investigator was motivated to try out soya milk administration and to see its effectiveness among the women with menopausal symptoms. Soya milk is easily available and it is cost effective for treating menopausal symptoms. As supported by the above studies there is a lack of evidence based trials evaluating the effectiveness of natural home remedies. So the investigator felt the need for the study.

Statement of the Problem

An Experimental Study to Assess the Effectiveness of Soya milk upon Menopausal symptoms among Menopausal women in Selected Wards of Thiruverkadu Township.

Objectives of the Study

1. To assess the prevalence of menopausal symptoms among menopausal women in the selected wards of Thiruverkadu township.
2. To assess the level of knowledge regarding menopause in the control and experimental group of menopausal women.
3. To determine the effectiveness of soya milk by comparing the menopausal symptoms in control and experimental group of menopausal women.
4. To determine the level of satisfaction regarding the administration of soya milk in the experimental group of menopausal women.
5. To identify the association between selected demographic variables and the menopausal symptoms in control and experimental group before and after administration of soya milk.

6. To find out the association between selected clinical variables and menopausal symptoms before and after administration of soya milk in the control and experimental group of menopausal women.

Operational Definitions

Effectiveness

It refers to the out come of administration of soya milk on menopausal symptoms among menopausal women measured in terms of reduction of menopausal symptoms which will be assessed using rating scale on menopausal symptoms developed by researcher.

Menopausal symptoms

It refers to the symptoms experienced by menopausal women like hot flushes, night sweats, vaginal dryness, insomnia and classified mild, moderate and severe which will be assessed using rating scale on menopausal symptoms developed by researcher.

Menopausal women

It refers to women who belong to menopausal period and experiencing menopausal symptoms.

Soya milk

It refers to supplementation of 100ml commercially prepared milk of soya (containing isoflavones 10 mg energy 34.4kcal, total fat 3.2 g including omega 3-.11g, omega 6-.56g fiber1g, protein 3.2g) administered once daily(mid morning) for 30 days.

Knowledge

It refers to the verbal response and the level of understanding about menopause which is measured through structured knowledge questionnaire.

Assumptions

- Menopause is a normal consequence of the aging process
- Menopausal symptoms have higher prevalence in menopausal women.
- Soya milk is rich in isoflavones, its help in easing menopausal symptoms and it is an anti oxidant.

Null Hypotheses

Ho_1 There will be no significant difference in menopausal symptoms before and after administration of soya milk between control and experimental group of menopausal women.

Ho_2 There will be no significant association between selected demographic variables and menopausal symptoms in control and experimental group of menopausal women.

Ho_3 There will be no significant association between selected clinical variables and menopausal symptoms in control and experimental group of menopausal women.

Delimitations

The study was

- Limited to only menopausal women with symptoms
- Conducted only for a period of 4 weeks

Conceptual Frame Work of the Study

The conceptual frame work deals with the interrelated concepts that are assessable together to some rational schemes by virtue of their relevance to a common theme (Polit and Beck 2010).

Conceptual frame work is a process of ideas which are formed and utilized for the development of research design. It helps the researcher to know what data needs to be collected and give direction to an entire research process. The present study is aimed at assessing the effectiveness of soya milk upon reduction of menopausal symptoms among menopausal women at selected villages at Chennai. The investigator adopted the modified Lydia halls core, care, and cure model as a conceptual frame work.

Modified Lydia halls Core, Care, and Cure model

Lydia hall proposed a prescriptive theory of nursing which is described as a conceiving of desired situation and the ways to attain it. Prescriptive theory directs action towards an explicit goal. It consists of 3 factors core, care, and cure a nurse develops a prescription based on a core and implements it according to the realities of the situation. This model views nursing practice as an art based on goal directed care her vision of nursing practice closely parallels the assessment, implementation and evaluation steps of the nursing process. The study is to reduce the menopausal symptoms among menopausal women, the Investigator plans the prescription that will fulfill the core by identifying the various means to achieve the goal. So the investigator selected soya milk which is considered as safe, cost effective without any side effects in reducing the menopausal symptoms. In this the core is women with menopausal symptoms, care is administration of soya milk by the community health nurse

(investigator) and the cure is the evaluation. The 3 relatives identified are core, care, and cure where the core is participating nurse, care is one who received a nursing action and the cure is the nurses desired out come.

Core

It refers to developing an interpersonal relationship with client. This model views the woman as an individual with unique experiences who are assessed menopausal symptoms by the pre intervention assessment of demographic variable, clinical variable, and menopausal rating scale and there after administered soya milk for those with symptoms who are identified.

Care

Care in this study is explained in terms of the care menopausal women received from nurse through her nursing action. The nursing action here is careful administration of specified amount of soya milk for a given period of time.

Cure

The level of menopausal symptoms was reassessed in control and experimental group to know the reduction in symptoms by positive or negative out come.

A positive outcome represents the reduction of menopausal symptoms of hot flush, irritability, insomnia, and its reinforced by administration of soya milk.

The negative outcome represents no reduction of menopausal symptoms. Where the investigator need to reinstitute the intervention after reassessing the need. The investigator gets feedback from them and provides the intervention until the purpose was achieved.

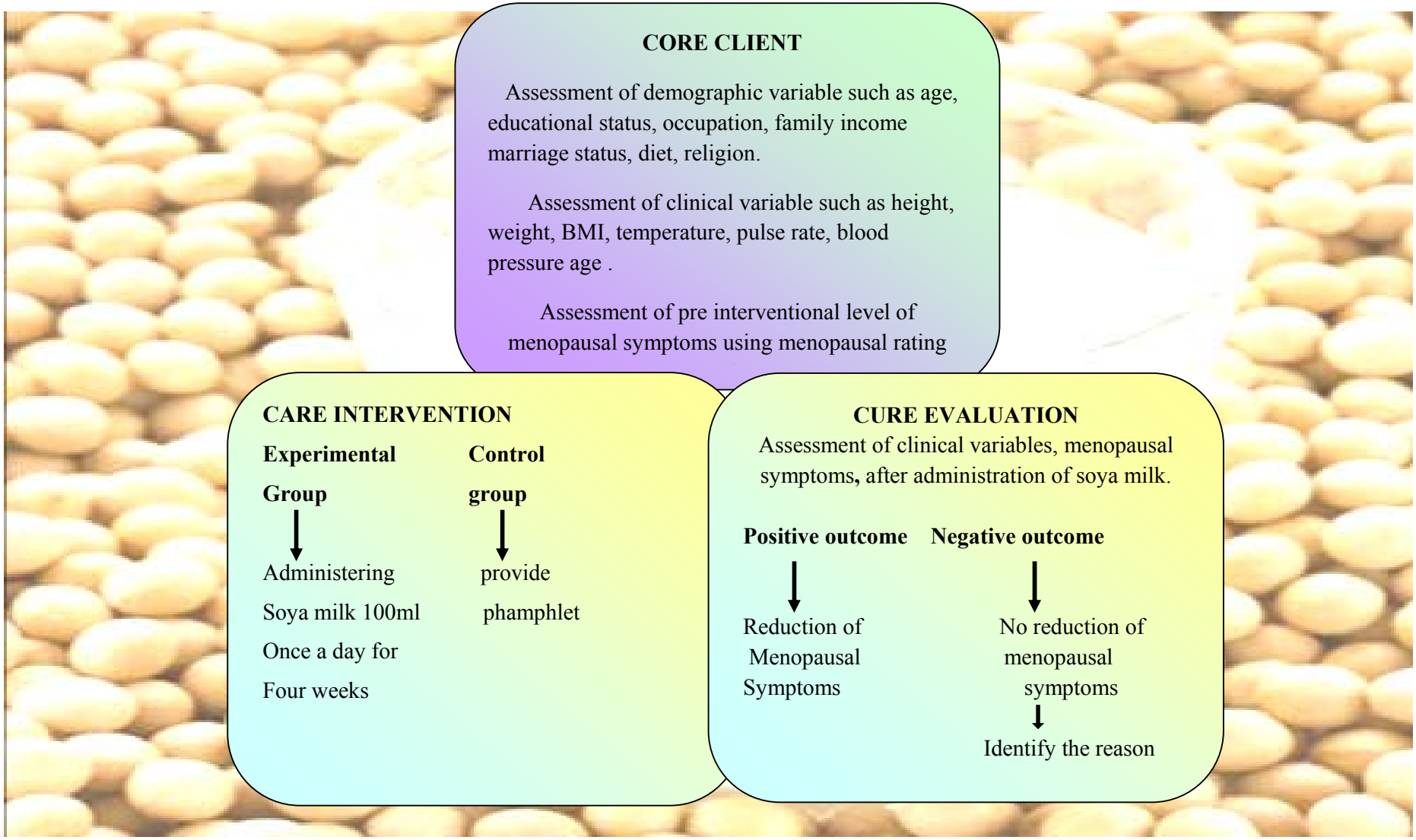

Fig. 1 Conceptual Framework Based on Lydia hall Core, Care, Cure model

Projected Outcome

The projected outcome will be reduce the menopausal symptoms among menopausal women by using natural methods such as soya milk as supplement, and improve their quality of life.

Summary

This chapter dealt with the introduction which included background of the study, need for the study, statement of the problem, objectives of the study, assumptions, operational definitions, null hypothesis, delimitations and conceptual framework of the study.

Organization of the Report

Further aspects of the study are presented in the following chapters,

In chapter II - Review of literature

In chapter III - Research methodology

In chapter IV - Analysis and interpretation of the data

In chapter V - Discussion

In chapter VI - Summary, conclusion, implication, and recommendations.

Chapter II

Review of literature

CHAPTER II

REVIEW OF LITERATURE

A review of literature involves the systematic identification, location, scrutiny and summary and written material that contain information on the research problem. (Polit & Beck 2010).

The task of reviewing literature involves the identification, location, selection, analysis and written description of information on the topic of interest.

This chapter deals with a review of published and unpublished Research studies and from related material for the present study. This helps the Investigator in building the basement of the study. The review of literature for the study is presented under the following heading,

- **Literature related to menopausal symptoms**
- **Pharmacological and non pharmacological management of menopausal symptoms**
- **Literature related to soya milk upon menopausal symptoms**

Literature related to menopausal symptoms

A pre test – post test design was used to identify the knowledge of menopausal problems and their management of women aged 40-59 years in selected school teachers in Mangalore, the post test knowledge score 25.13%was higher than mean pre test score (13.83%) the results showed that structured teaching programme has helped the teachers to improve the knowledge by Pinto (2011).

A descriptive study on menopausal depression was conducted by Liji,Mathias (2011) showed that out of 100 samples 9% of them had mild depression, 2% of them had moderate depression 25.50 % reported climactic physiological factors, 20.29 % reported psychological factors an 14.20 % reported social factors.

Nisar et al. (2008) conducted study at out patient department of Isra University, Total 863 women of age 42 to 80 years were interviewed in out patient department. A semi structured questionnaire was used to collect data. Mean age of respondents was 55.05, Menopause was natural in (84.24%) women and (15.75%) had surgical menopause. (78.79%) women had little knowledge about menopause, while (15.8%) women knew about effects and symptom of menopause. (78.79%) women considered menopause as a natural process, these women were of age 45 to 58 years and (59.4%) were uneducated. Frequently reported symptoms were Backache in (75.66%), body aches, 576 (66.74%) and Insomnia in (63.44%) women. Vasomotor symptoms were reported by (59.4%) and 390 (45.19%) respectively. Short loss of memory was reported by 536 (62.10%) women. 318 (36.84%) women were bothered by menopausal symptoms but only (31.86%) has consulted doctor. 649 (75.20%) women were not taking any medicine for symptoms, 08 (0.926%) were taking Herbs, 10 (1.15%) were on HRT.

In Malaysia a study of prevalence of menopausal symptoms was conducted by Liee Kar (2009), the mean age of menopause was 51.3 years (range 47 - 56years). The most prevalent symptoms reported were joint and muscular discomfort (80.1%); physical and mental exhaustion (67.1%); and sleeping problems (52.2%) Followed by symptoms of hot flushes and sweating (41.6%); irritability (37.9%); dryness of vagina

(37.9%); anxiety (36.5%); depressive mood (32.6%). Other complaints noted were sexual problems (30.9%); bladder problem (13.8%) and heart discomfort (18.3%). Perimenopausal women (n=141) experienced higher prevalence of somatic and psychological symptoms compared to premenopausal (n=82) and postmenopausal (n=133) women. However uro genital symptoms mostly occur in the postmenopausal group of women.

Mariane et al.(2006) conducted study on quality life of menopausal women Sixty-two women aged 44-55 referring to and academic outpatient clinic in Shiraz were selected by simple random sampling, and allocated in two groups. Data was collected using a modified Hildich questionnaire on quality-of-life in menopause stage. Quality-of-life of the subjects (vasomotor, psychosocial, physical and sexual aspects) were evaluated prior to and 3 months after educational intervention. Results: Mean quality-of-life score in study and control groups, prior to education, was 81.7 and 74.8; changing to 75.3 and 75.8, respectively three months after intervention. The study group showed a significant improvement in their quality-of-life ($p = 0.001$).

The descriptive study was conducted to evaluate the gynecological problems of menopausal women by Thakur et al. (2005) A total of 250 menopausal women were taken for study incidence of various gynecological problems was determined in them. Genital prolapsed was the commonest problem for which they presented (48%) malignancy was present in (50%) of cases, cancer cervix was the most common neoplasm (57%).

Khalsa (2004), reports menopause is changing the face of medicine, menopause is a time for paying special attention to the body needs. Researchers agree that each woman has her own unique experience of menopause based on past, current physical health and life style, psychological profile, support system in community and genetics. Underlying symptoms vary in degree of intensity with hormone level that include hot flush, night sweat, disturbed sleep, mild depression, anxiety, desire to put their life in perspective.

National family health survey - 2 analysed the issue of menopause as an emerging issue in India in 2005. They assessed the variation in the level of menopause in India and its states. The variation with respect to different socioeconomic, demographic nutritional and reproductive related variables implied that the large number of women from poor socioeconomic status reached menopause early compared with their counterparts. As India is still characterized by a large number of illiterate women getting married at an early age with poor nutritional levels, the problems of early menopause may continue to be a burden in the future too.

A cross sectional study on medico social dimensions of menopausal women in India conducted by Aaron. and Mulliyil (2002) 100 menopausal and 100 pre menopausal women were selected. The study findings showed 69% of the women in menopause complained of diminishing abilities, 23% felt sexual life ends with the onset of menopause, 63% reported that their husband had become disinterested in them after menopause and 11% were apprehensive of loss of feminity.

In 2001 Anitha conducted a descriptive study to measure the association between selected factors and menopausal problems among 90 working women aged

between 45-56 at Erode district. A self administered questionnaire was used to collect the data and data were analyzed by using descriptive and inferential statistics. The problems assessed were vasomotor changes (mean=51.3, SD=17.68), psychological changes (mean=52.99, SD=18.25), genitourinary changes (mean= 57.22, SD=17.32), structural changes (mean=50.89, SD=24.93), physiological body changes (mean=46.67, SD=15.19) and sexual changes (mean=59.33, SD=21.3). The major findings suggested were there was a significant relationship between level of menopausal problems and age of the women (χ^2 = 8.80; P<0.01), and the duration of menopause.

Pharmacological and non pharmacological management of menopausal symptoms

The experimental study conducted in Chennai by Kavitha (2010) found that the mean, standard deviation of menopausal symptoms in control group were same before and after administration of vitamin E (M=30.96, SD=7.950),were as in experimental group the mean and standard deviation were (M=9.93, SD=6.99) in comparison with before administration of Vitamin E (M=31.5, SD=8.12) The difference was found statistically significant at P<0.001 level of confidence and it can be attributed to the effectiveness of administration of Vitamin E.

A study conducted an online survey of 781 women in USA aged 40-60 years showed result as 59% stopped hormone therapy due to concern about its potential risk, 67% used alternative therapies to relieve menopause symptoms. The study concludes that Alternative therapies have become increasingly popular for symptomatic relief among menopausal women by Drieling et al. (2009).

An experimental study was conducted to assess the effectiveness of hormone therapy in which 189 women were administered hormone progesterone for 4 weeks. The result reveals that 97% of them had fewer symptoms and few had minimal benefit. The researcher concluded that hormone replacement therapy can be given for menopausal symptoms. (Mahmud 2006).

An experimental study was conducted by Jeinkins (2007) twenty-five hyperlipidemic men and women took soy (providing 36 g/d soy protein and 168 mg/d isoflavones) and control breakfast cereals, each for 3 weeks in a randomized crossover study with a 2-week washout period between treatments. Fasting blood samples were obtained pretreatment and at weeks 2 and 3 of each treatment. However, oxidised low-density lipoprotein (LDL) was reduced on the test compared with the control both as total dienes in LDL and as the ratio of conjugated dienes to cholesterol in the LDL fraction by 9.2% +/- 4.3% (P =.042) and 8.7% +/- 4.2% (P =.050), respectively. Consumption of soy protein may reduce the risk of cardiovascular disease both through reduction in serum lipids and by the antioxidant properties of protein-associated soy isoflavones.

In the year 2003 Misra et al. conducted a randomized clinical trial to evaluate the efficacy of herbomineral on menopausal syndrome. Postmenopausal syndrome is characterized by manifestations of hot flushes, insomnia, night sweating, irritability and mood swings and anxiety-depression. M-3119, a herbo mineral preparation administered to 42 women with signs and symptoms of postmenopausal syndrome at a dose of 2 tablets twice daily for 6 months, cured the symptoms in 53% of women, improved in 31% and remaining 16% did not respond to the therapy. From the various

parameters taken for clinical analysis, it may be concluded that M-3119 would be an effective therapy for the control of symptoms of menopausal syndrome.

Literature related to soya milk

Aparna (2011) stated in her article that consuming soya daily will exerts beneficial effects on bone health in menopausal women apart from helping in reducing hot flush and other menopausal symptoms , In addition soya also contains magnesium and boron, which are important co factor of calcium for bone health, Isoflavones in soya food may inhibit the break down of bones.

An experimental study was conducted to assess the effectiveness of soya bean upon menopausal symptoms among 60 menopausal women in the age group of 45 – 56 years. Soya bean was administered 50 g once daily for 30 days. That revealed that post test mean 11.5 was lesser than pre test mean 14.5 in experimental group. The obtained 't' value 7.761 was highly significant at 0.05 level. Soya bean consumption was effective on menopausal symptoms among women between 45-56 years. Hence it was concluded that soya consumption was effective, upon menopausal symptoms concluded by Manubakiam (2010).

A comparative study conducted by Soundari (2009**)** among 40 menopausal women, the effectiveness of soya bean versus diaphragmatic breathing exercise. Mean difference between pre and post test menopausal problem score in experimental group I and experimental group II was 2.95, t =6.210. (0.001) was highly significant. There was significant relief in menopausal problem among working women in soya group than diaphragmatic breathing group.

Somekawa (2007) conducted experimental study to evaluate the effects of dietary isoflavones in soya products on menopausal symptoms, lipid profiles, and bone mineral densities in postmenopausal Japanese women. Estimated the daily intakes of isoflavones in the diets of 478 postmenopausal Japanese women who reported soy consumption. Recorded serum values of fasting total cholesterol, triglyceride low-density lipoprotein cholesterol, high density lipoprotein cholesterol, and apolipo proteins. Bone mineral density was measured at the lumbar spine (L2-L4) by dual energy x-ray absorptiometry. The mean estimated intake of isoflavones among 478 women was 54.3 mg/day. With stepwise regression analysis we found that weight and years since menopause were significant independent predictors of bone mineral density. Bone mineral densities adjusted to years since menopause and weight were significantly different in the highest intake compared with lowest intake category ($P < .001$).

A prospective, randomized, double blind, placebo- controlled trial was conducted to evaluate the effects of a herbo mineral phytoestrogen formulation [drug A] containing soy isoflavones in 60 peri and post menopausal women with menopausal symptoms in a public hospital in India by Shah & Agarwal (2006) .women with symptoms related to menopause were randomized and assigned to either group A or group B (placebo). Menopausal symptoms were graded along a scale based on kupper man index at baseline and changes were noted every 2 months and thereafter for a total of six months. The group that received the active drug showed 40% of improvement in psychological symptoms as compared to the placebo group. This group also reported an overall sense of well being as compared to the placebo group.

Malhotra (2004) described that isoflavones are plant compounds that are structurally and functionally similar to 17-oestradial and bind to oestradial receptors despite relatively weak oestrogen receptors binding potencies, isoflavone have bioactivity similar to that of oestradial and reach concentration sufficient to elicit response in the human body.

A randomized, double-blind, placebo-controlled trial was conducted to assess the effect of daily dietary supplementation of soy protein isolate powder on hot flashes in postmenopausal women. Age in the treatment group was 48-61 years, while in the control group it ranged from 45-62 years. The diets of the 104women were supplemented with either 60 g soy powder (40 g isolated soy protein) or 60 g placebo (casein) daily for 12 weeks. By the end of the 12th week, women taking the soy protein isolate had a 45-percent reduction in daily hot flashes compared to a 30-percent reduction obtained with the placebo. (Albertazzi, et al. 2003).

Summary

This chapter has dealt with the review of research related to problem stated. It has helped the researcher to understand the impact of the problem under study. The literature presented here was extracted from 16 primaries and 6 secondary sources. It has also enabled the investigator to design the study to develop the tool and plan for the data collection procedure and to analyze the data.

Chapter III

Research Methodology

CHAPTER III

RESEARCH METHODOLOGY

The methodology of research study is defined as the way the data are gathered in order to answer the question to analyze the research problem. The research methodology involves a systemic procedure by which the researcher starts from initial identification of the problem to its conclusion.

The present study conducted to assess the effectiveness of soya milk upon menopausal symptoms among menopausal women. The chapter deals in brief description of different steps undertaken by the researcher for the study. It involves research approach, the setting, population, sample and sampling technique, selection of the tool, content validity, reliability, pilot study, data collection procedure and plan for data analysis.

Research Approach

An experimental research is the most significant part of any research. The appropriate choice of the research approach depends upon the purpose of the research study which is under taken.

According to Polit & Beck (2010) an experimental research is an extremely applied form of research and involves finding out how well a program, product, practice or policy is working. Its goal is to assess the success of program.

To accomplish the objective of this study an experimental approach is considered most appropriate; since the researcher wanted to assess the effectiveness of soya milk upon menopausal symptoms among menopausal women.

Research Design

According to Polit and Beck (2010) a research design is the over all plan for addressing a research question, including specification for enhancing the study integrity.

A true experimental research design was adopted for conducting this study. It fulfills the criteria such as manipulation, control, and randomization. Randomization was carried out to select the 60 sample and to assign the control and experimental group. Soya milk was given as manipulation in experimental group.

In this study pretest, post test design was adopted. The researcher assessed the prevalence of menopausal symptoms among menopausal women using rating scale on menopausal symptoms. Then control and experimental group were selected then manipulated the independent variable that is soya milk which was administered only to the experimental group. Then the menopausal symptoms was assessed by rating scale for both groups. Finally the effectiveness of soya milk upon menopausal symptoms assessed by using rating scale on level of satisfaction.

R O_1 _ O_2

R O_1 X O_2

R - Randomization

O1- Pre assessment of menopausal symptoms

O2 - Post assessment of menopausal symptoms

X - Intervention (administration of soya milk)

Intervention

It refers to supplementation of 100ml commercially prepared milk of soya (containing isoflavones 10 mg energy 34.4kcal, total fat 3.2 g including omega 3-.11g, omega 6-.56g fiber1g, protein 3.2g its administered once daily(mid morning) for 30 days.

Variables

An abstract concept when defined in term that can be measured is called a variable. Variables are characteristics that vary among the subject being studied.

Independent variable

The independent variable of the study was administration of soya milk 100ml/ day for 30 days.

Dependent variable

It was perceived menopausal symptoms among menopausal women before and after administration of soya milk

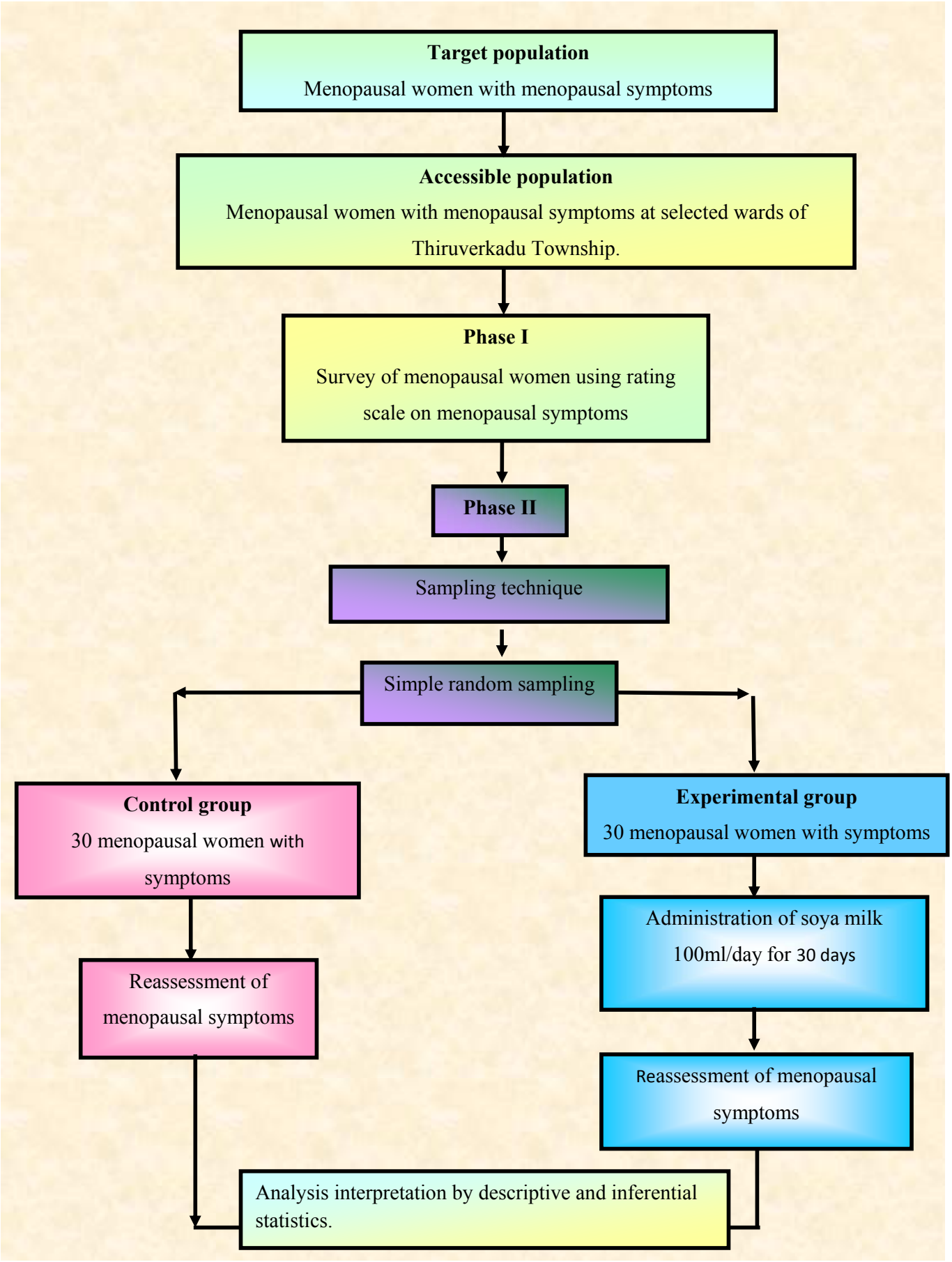

Fig. 2 Schematic Diagram of the Study

Research Setting

The physical location and condition in which data collection takes place in the study Polit and Beck (2010). The investigator selected two wards for this study by randomization. Rajankuppam was selected as experimental group and Melayanambakkam as a control group.

Population

Population is the entire aggregation of cases which meet designated set of criteria. (Polit and Beck (2010).

The target population is the group of population that the researcher aims to study and to whom the study finding will be generalized. In this study the target population comprises of all menopausal women with menopausal symptoms.

Accessible population is the list of population that researcher finds in the study area. The accessible population in this study is menopausal women with menopausal symptoms residing in Rajankuppam.

Sample

Sample consists of the subset population selected to participate in a study. (Polit and Beck (2010). A sample of 60 menopausal women with menopausal symptoms were selected, 30 menopausal women were randomly assigned to control group, and 30 were assigned to experimental group.

Sampling Technique

Sampling is the process of selecting a proportion of population to represent the entire population (Polit and Beck (2010). The subject of the study were selected by (lottery method) simple random sampling.

Inclusion Criteria

The study includes menopausal women

- who attain surgical and natural menopause
- between the age group of 40- 60 years.
- who will speak, understand Tamil .
- who are willing to participate

Exclusion criteria

The study excludes menopausal women

- who are using hormonal replacement therapy
- who did not like the taste of soya milk

Selection and Development of Study Instrument

The investigator develops data collection instrument were through an extensive review of literature, consultation with experts and opinion of faculty members.

Demographic variable proforma of menopausal women

Demographic variables include age, marital status, educational status, occupation, nature of work, income, food habits, type of family, religion.

Clinical variable proforma of menopausal women

Clinical variables include BMI, systolic blood pressure, diastolic blood pressure, pulse.

Rating scale on menopausal symptoms

The rating scale included various aspects like physiological and psychological symptoms.

Score	Percentage	Categories
0-30	<50	Mild
31-45	51-75	Moderate
46-60	>76	Severe

Structured knowledge questionnaire on menopause

The structured knowledge questionnaire was formed very carefully considering language and sequence of item. The questions were formulated and options were given below the question. It consisted of 20 multiple choice questions on knowledge regarding menopause which include meaning symptoms, management, each question had 4 options which included one right answer. Every correct answer was assigned a score of 1 and wrong answer a score of 0.The total score of structured questionnaire was 20.The knowledge score was classified into 3 levels.

Scores	Percentage	Level of knowledge
0 – 10	<50	Inadequate
11 – 15	51 – 75	Moderately adequate
16 – 20	< 76	Adequate

Rating scale on level of satisfaction regarding administration of soya milk

The level of satisfaction of women regarding administration of soya milk , it was measured by level of satisfaction rating scale, which comprised of 3 categories such as general satisfaction, administering soya milk, and effect of soya milk. Rating scale included 12 items. The responses were in the scale format like highly satisfied, satisfied, dissatisfied, and highly dissatisfied with score of 4,3,2,1 respectively. The maximum possible score was 48.

Score	Percentage	Level of satisfaction
1 – 12	< 25	Highly dissatisfied
13 – 24	26 – 50	Dissatisfied
25 – 34	51 – 75	Satisfied
35 – 48	> 76	Highly satisfied

Psychometric Properties of Instruments

Validity

Content validity is the degree to which the items in an instrument adequately represent the universe of content for the concept being measured.(Polit & Beck 2010). Content validity of the tool was obtained by getting opinion from seven experts. Based on the experts suggestions the researcher finalized the tools for the original study.

Reliability

Reliability is the degree of consistency with which an instrument measures the attribute which is designed to measure. (Polit & Beck 2010).

Instrument 1: Rating scale on menopausal symptoms

The reliability of the rating scale on menopausal symptoms was elicited by test - retest method and Karl pearsons 'r' was computed for finding out the reliability, "r" was found to be .93 .Positive correlation indicates that the tool was highly reliable.

Instrument 2: Structured questionnaire on menopausal symptoms

The reliability of the structured knowledge was elicited by split half method and karl pearson's 'r' was computed for finding out the reliability. Which indicate (r -.75) positive correlation that the tool was reliable.

Instrument 3: Rating scale on level of satisfaction regarding administration of soya milk

The reliability of rating scale on level of satisfaction regarding administration of soya milk was elicited by split half method and karl pearson 'r' was computed for finding out of reliability and which depicts (r - .92) positive correlation ,which indicates that the tools was highly reliable.

Pilot Study

Polit & Beck (2010) said that pilot study is a miniature of actual study, in which the instrument is administered to the subjects drawn from the same population. It is a small scale version done in preparation for a major study. The purpose is to find out the feasibility and practicability of study design.

The pilot study was conducted in the month of June, to assess the feasibility and practicability to conduct the study. The data was collected using study instruments.

Protection of Human Rights

- The study was conducted after obtaining clearance from ethical committee, Apollo hospital, Chennai, and permission from the research and medical guide.
- Consent was obtained from all participants before data collection.
- Confidentiality was maintained through out the study.

Data Collection Procedure

Data collection is the gathering of information needed to address a research problem. The data collection was done for period of one month from June 17th to July 17th 2011. Formal permission to conduct the study was obtained from chairman, Thiruverkadu Township. The survey was conducted to assess the prevalence of menopausal symptoms among menopausal women by using rating scale, then according to inclusion criteria women were selected for the study, 60 participants were randomly selected 30 in control group and 30 in experimental group. The investigator introduced herself and obtained informed consent from the menopausal women to participate in the study. The researcher collected the data from both groups by using study instruments, The commercially prepared soya milk was administered (house to house) 100ml/ day (midmorning) for the period of four weeks to the experimental group. At the end of fourth week the severity of menopausal symptoms were assessed by rating scale in both the groups .The level of satisfaction regarding administration of soya milk was assessed only in experimental group.

Problem Faced During the Process of the Data collection

The researcher had problem of getting bulk amount of soya milk

Intervention Protocol

It refers to administration of 100ml commercially prepared milk of soya (containing isoflavones 10 mg energy 34.4kcal, total fat 3.2 g including omega 3-.11g, omega 6-.56g, fibre 1g, protein 3.2g administered once daily(mid morning) for 30 days.

Plan for Data analysis

Data analysis is the systematic organization and synthesis of research data and testing of research hypotheses by using the obtained data. (Polit and Beck (2010) Analysis and interpretation of data were carried out with descriptive and inferential statistics. The association between the demographic data and dependent variable were analyzed with the help of chi square test

Summary

This chapter has dealt with research approach, design, setting, population and samples sampling technique, inclusion criteria, exclusion criteria, selection and development of study instruments content validity, reliability, pilot study, data collection procedure and plan for data analysis. In the following chapter analysis is interpreted by using descriptive and inferential statistics.

Chapter IV

Analysis and Interpretation

CHAPTER IV

ANALYSIS AND INTERPRETATION

This chapter includes both inferential and descriptive statistics. Statistics is a field of study concerned with techniques or methods of collection of data classification, summarizing interpretation, drawing inferences, testing of hypotheses, making recommendation etc. (Mahajan 2008).

The data was collected from 60 menopausal women with menopausal symptoms. 30 in the control group and 30 in the experimental group to assess the effectiveness of soya milk upon menopausal symptoms. Data were analyzed based on the objectives and hypotheses of the study. Data analysis was computed after transferring the collected data into a coding sheet. The researcher used descriptive and inferential statistics for the analysis.

The data tabulated, analyzed and interpreted using descriptive and inferential statistics in the sequence as follows:

Organization of findings

- Prevalence of menopausal symptoms among menopausal women
- Frequency and percentage distribution of demographic variables,
- Frequency and percentage distribution of clinical variables,
- Level of knowledge regarding menopause both in the control and experimental group of menopausal women.
- Level of satisfaction regarding administration of soya milk in control group.

- Comparison of mean and standard deviation of menopausal symptoms before and after administration of Soya milk between control and experimental group of menopausal women.
- Comparison of Mean and Standard deviation of Knowledge Regarding Menopause in the Control and Experimental group of Menopausal Women.
- Association between selected demographic variables, clinical variables, and menopausal symptoms before and after administration of Soya milk in control and experimental group of menopausal women.

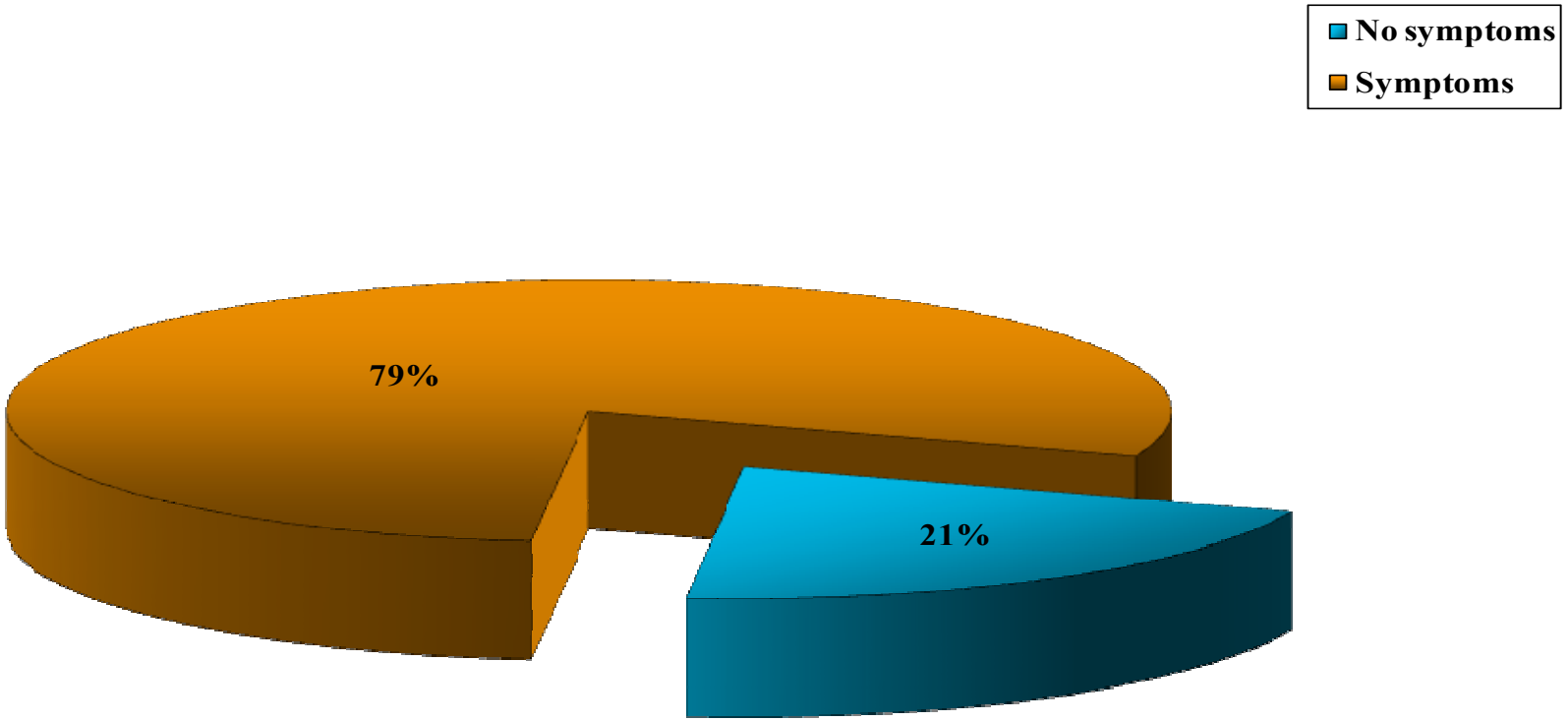

Fig. 3 Percentage Distribution of Prevalence of Menopausal symptoms of Menopausal women

Table 1

Frequency and Percentage Distribution of Demographic Variables in the Control and Experimental Group of Menopausal Women.

Demographic variables	Control group n =30		Experimental group n =30	
	n	p	n	p
Age in years				
40 - 45	-	-	-	-
46 - 50	11	36.67	8	26.67
51 - 55	11	36.67	13	43.33
Above 55	8	26.67	9	30.00
Marital Status				
Married	30	100.00	29	96.67
Unmarried	-	-	-	-
Widow	-	-	1	3.33
Educational Status				
Illiterate	6	20.00	4	13.33
Primary	19	63.33	21	70.00
Middle	-	-	-	-
Higher secondary education	5	16.67	5	16.67
Occupation				
Homemaker	27	90.00	24	80.00
Self employed	3	10.00	6	20.00
Employed	-	-	-	-
Nature of work				
Sedentary work	-	-	1	3.33
Moderate work	30	100.00	22	73.33
Heavy work	-	-	7	23.33
Income per month				
Below 5000	3	10.00	3	10.00
5001 – 10000	10	33.33	17	56.67
10001 – 15000	6	20.00	10	33.33
Above 15000	4	13.33	7	23.33

The data in table 1 revealed that, majority of the menopausal women were married (100%, 96.67%), educated up to primary school (63.33%, 70%), home makers (90%, 80%), moderate workers (100%, 73%). Significant percentage of them were between the age of 51-55 years (36.67%, 43.33%) with monthly income Rs10000 and above (33.33%, 56.67%) in control and experimental group respectively.

Fig 3.shows that 79% of them had menopausal symptoms, 21%of them had no symptoms.

Fig 4 depicts that majority of them were non vegetarian (80%, 93.33%) in both control and experimental group respectively.

Fig 5 revealed that majority of them living in joint families (70%, 86.67%) in control and experimental group respectively.

Fig 6 shows that most of the participants in the control group (53.33%) and in the experimental group (86.67%) were Hindus.

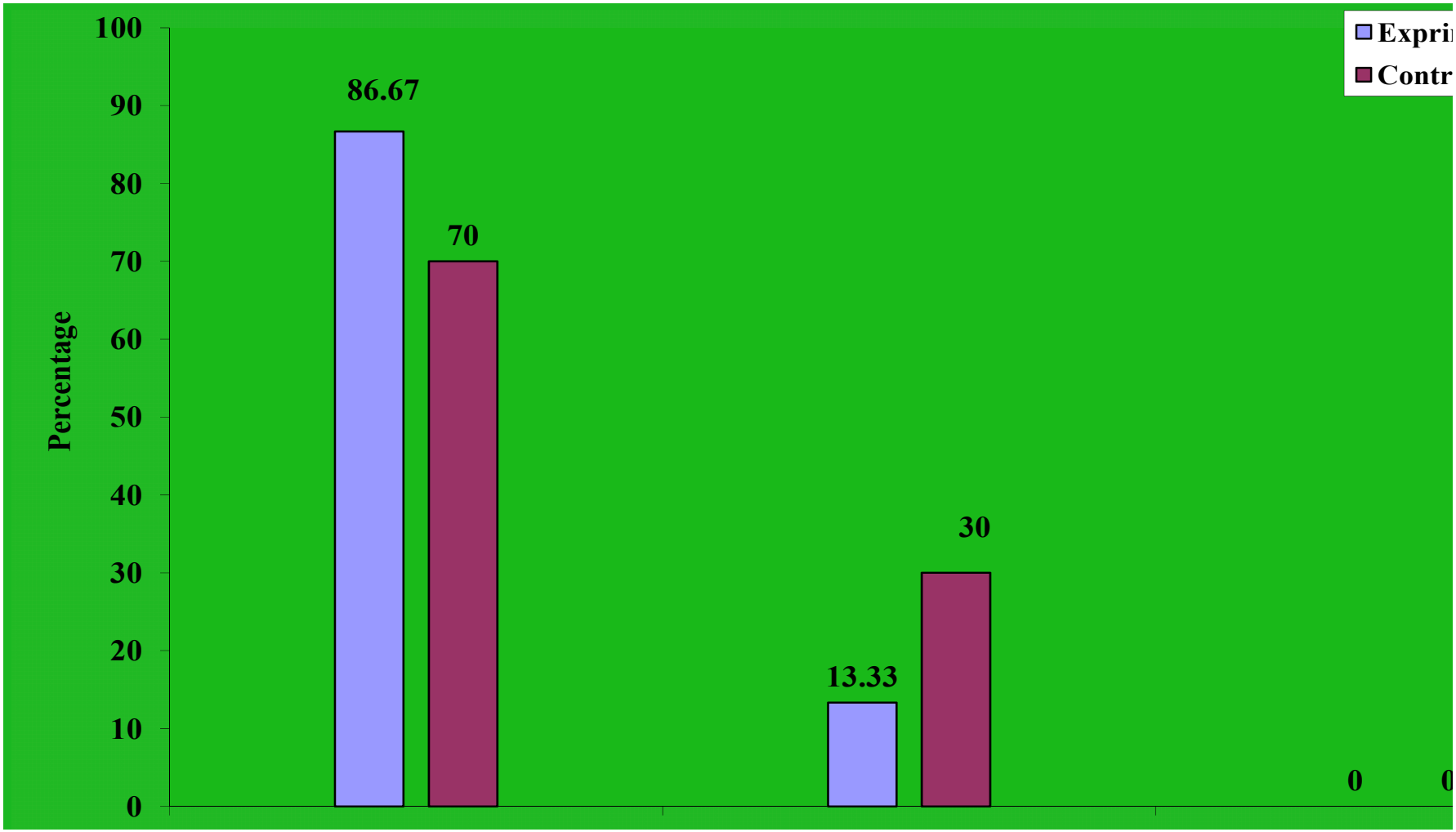

Fig. 4 Percentage Distribution of Type of Family of Menopausal women

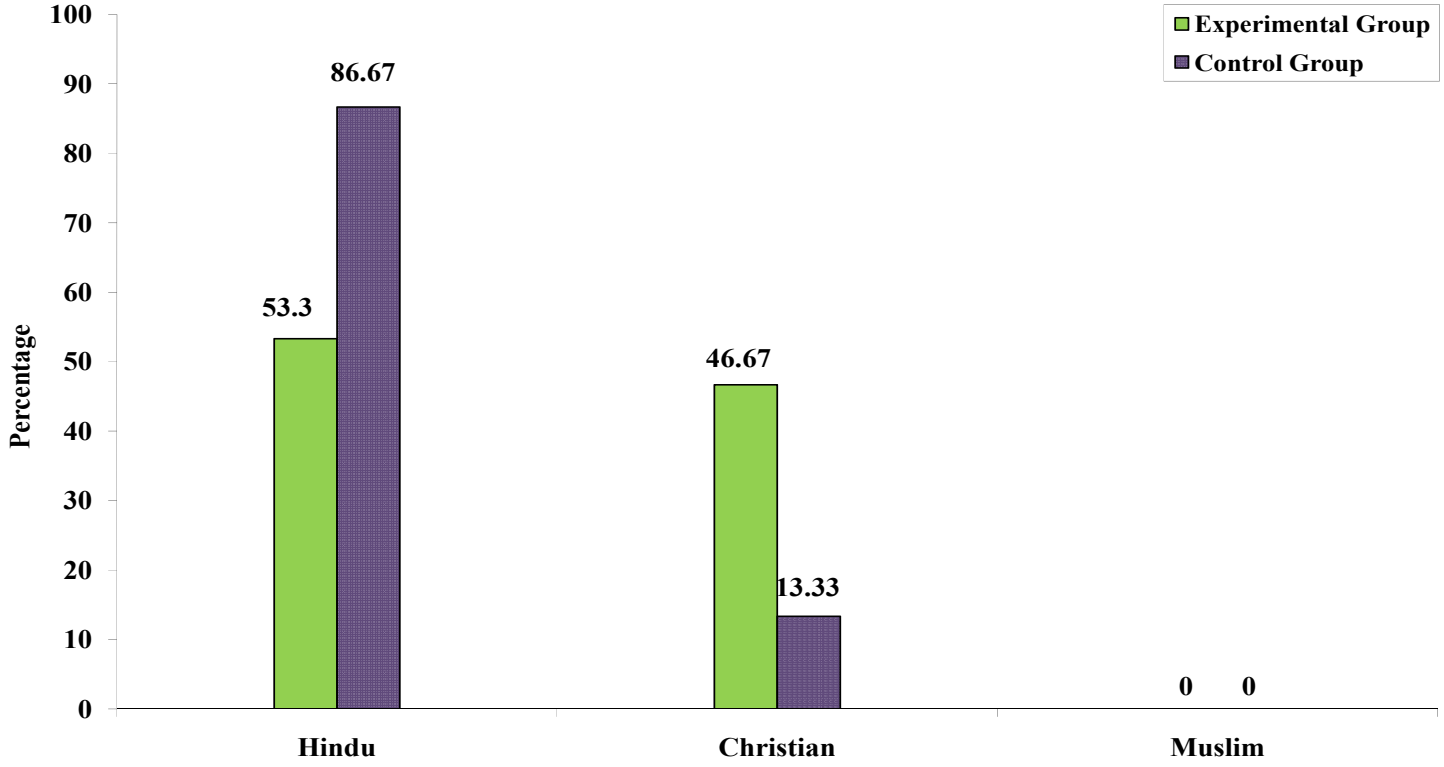

Fig. 5 Percentage Distribution of Religion of Menopausal women

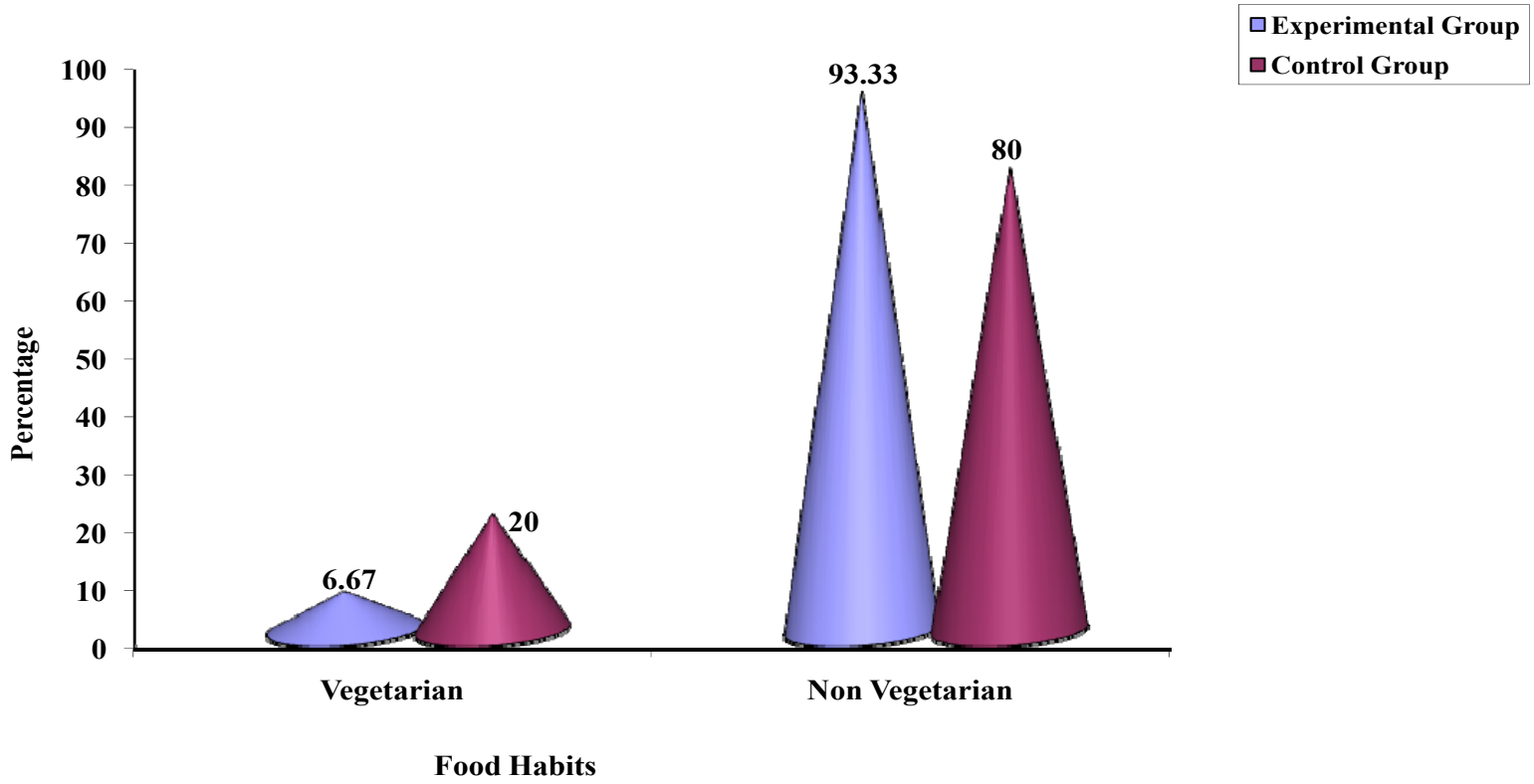

Fig. 6 Percentage Distribution of Food Habits of Menopausal women

Table 2

Frequency and Percentage Distribution of Clinical Variables in the Control and Experimental group of Menopausal women.

Clinical variable	Control group n =30		Experimental group n=30	
	n	p	n	p
BMI				
<18.5	-	-	-	-
18.5 – 24.9	26	86.67	25	83.33
25 – 29.9	4	13.33	5	16.67
>30	-	-	-	-
Body Temperature				
<98.6F	3	10	6	20
98.6 - 99 F	27	90.00	24	80.00
>99F	-	-	-	-
Pulse rate				
<72 BPM	-	0.00	2	6.67
72 - 80 BPM	26	86.67	28	93.33
>80 BPM	4	13.33	-	-
Systolic Blood Pressure				
<120 mmHg	4	13.33	4	13.33
120 - 140 mmHg	24	80.00	25	83.33
>140 mmHg	2	6.67	1	3.33
Diastolic Blood Pressure				
<80 mmHg	4	13.33	2	6.67
80 - 90 mmHg	26	86.67	28	93.33
>90 mmHg	0	0.00	0	0.00
Nature of Menstrual Cycle				
Regular	25	83.33	26	86.67
Irregular	5	16.67	4	13.33
Type of menopause				
Natural	25	83.33	27	90.00
Surgical	5	16.67	3	10.00
Duration of menopause				
<1 year	-	-	-	-
1 - 3 years	30	100.00	29	96.67
>3 years	-	-	1	3.33

The table 2 inferred that majority of them had body mass index between 18.5 - 24.9 (86.67%, 83.33%), body temperature 98.6-99^0 F (90%, 80%), pulse at the rate of 72-82 pulse/min (86.67%, 93.33%), systolic blood pressure of 120-140 mmHg (80%, 83.33%), diastolic blood pressure of 80-90 mmHg (86.67% 93.33%), had natural menopause (83.33%, 90%), and attained menopause before 1-3 years (100%, 96.67%) in both control and experimental group respectively.

Table .3

Frequency and Percentage Distribution of Menopausal Symptoms Before and After Administration of Soya Milk in Control and Experimental Group among Menopausal Women.

Menopausal Symptoms	Control group n=30		Experimental group n=30	
	n	p	n	p
Before administration				
Mild	3	10.00	-	-
Moderate	21	70.00	20	66.67
Severe	6	20.00	10	33.33
After administration				
Mild	3	10.00	21	70.00
Moderate	21	70.00	9	30.00
Severe	6	20.00	-	-

The data presented in table 3 depicts that most of the women had moderate level of menopausal symptoms (70%, 66.67%) in both control and experimental group before administration of soya milk. Where as majority (70%) of them experienced mild level of symptoms (70%) and significant of them experienced moderate level of symptoms (30%) in experimental group after administration of soya milk.

Table .4

Domain wise Frequency and Percentage Distribution of Menopausal symptoms in Control and Experimental group Before and After administration of soya milk among Menopausal Women.

Menopausal symptoms	Control group n=30						Experimental group n=30					
	Mild		Moderate		Severe		Mild		Moderate		Severe	
	n	p	n	p	n	p	n	p	n	p	n	p
Before administration												
Physiologic symptoms	2	6.6	14	46.66	4	13.33	1	3.3	12	40	7	23.33
Psychologic symptoms	1	3.3	7	23.33	2	6.6	1	3.3	6	20	3	10
After administration												
Physiologic symptoms	2	6.6	15	50	4	13.33	16	53.33	6	20	-	-
Psychologic symptoms	1	3.3	6	20	2	6.6	5	16.66	3	10	-	-

The data presented in table 4 depicts that significant percentage of the menopausal women had moderate level of physiological and psychological symptoms before administration of soya milk (46.66%, 40%) in control and experimental group respectively. Where as most of them experienced mild level of physiological symptoms (53.33%) and significant percentage of them experienced mild psychological symptoms (16.66%) in experimental group after administration of soya milk.

Table .5

Frequency and Percentage Distribution of Knowledge Regarding Menopause in the Control and Experimental group of Menopausal Women.

Knowledge	Control group n=30						Experimental group n=30					
	Inadequate		Moderately adequate		Adequate		Inadequate		Moderately adequate		Adequate	
	n	p	n	p	n	p	n	p	n	p	n	p
Menopausal symptoms	17	56.66	13	43.33	-	-	16	53.33	14	46.66	-	-
Menopausal management	18	60	12	40	-	-	15	50	15	50	-	-

This table 5 observed that most of them in control and experimental group had inadequate knowledge regarding menopausal symptoms (56.66%, 53.33%) and menopausal management (60%, 50%) of menopausal women.

Table .6

Frequency and Percentage Distribution of Level of Satisfaction on Administration of Soya milk in Experimental group of Menopausal Women.

(N=30)

Level of satisfaction	Experimental group	
	n	p
Highly Dissatisfied	-	-
Dissatisfied	-	-
Satisfied	5	16.7
Highly Satisfied	25	83.3

The data presented in table 6 depicts that majority of menopausal women were highly satisfied with administration of soya milk (83.3%) and (16.7%) of them were satisfied with administration of soya milk.

Table .7

Domain wise Frequency and Distribution of Level of Satisfaction on Administration of Soya milk in Experimental group of Menopausal Women.

(N=30)

Level of satisfaction	Highly satisfied		Satisfied		Dissatisfied		Highly dissatisfied	
	n	p	n	p	n	p	n	P
Researcher interaction	24	80	6	20	-	-	-	-
Administration of soya milk	20	66.66	10	33.33	-	-	-	-
Effects of soya milk	21	70	9	30	-	-	-	-

Table 7 depicts that majority of the menopausal women in experimental group were highly satisfied about researcher interaction, administration of soya milk and effect of soya milk (80%, 66.66%, 70%) and significant of them were satisfied about researcher interaction, administration soya milk and effects of soya milk (20%, 33.33%, 30%) respectively.

Table .8

Comparison of Mean and Standard deviation of Menopausal symptoms Before and After administration of soya milk between Control and Experimental group of Menopausal women.

Menopausal symptoms	Control group n=30		Experimental group n=30		
Before Administration	**Mean**	**SD**	**Mean**	**SD**	**'t'value**
Physiologic symptoms	18.9	3.53	20.8	2.80	2.11
Psychologic symptoms	20.16	2.32	20.46	3.56	2.06
After Administration					
Physiologic symptoms	18.7	3.54	14.4	4.66	4.12***
Psychologic symptoms	20.16	2.40	13.56	4.81	4.48***

***p<0.001.

The data presented in table 8 inferred that the difference in mean and standard deviation of physiological symptoms (M=18.9, 20.8, SD=3.53, 2.80) and psychological symptoms (M=20.16, 20.46, SD= 2.32, 3.56) before administration of soya milk between control and experimental group of menopausal women is not statistically significant (p<0.05).Whereas the difference in mean and standard deviation of physiological symptoms (M=18.7, 14.4, SD=3.54, 4.66) and psychological symptoms (M=20.16, 13.56, SD= 2.40, 4.81) after administration of soya milk between control and experimental group of menopausal women is statistically significant (p<0.001). There is

significant reduction of physiological and psychological symptoms in experimental group after soya milk administration which can be attributed to the effectiveness of soya milk. Hence null hypothesis $H_{01.}$ "There will be no significant difference in menopausal symptoms before and after administration of soya milk between control and experimental group of menopausal women" was rejected.

Table .9

Comparison of Mean and Standard deviation of Knowledge Regarding Menopause in the Control and Experimental group of Menopausal Women.

(N=60)

Group	Knowledge about menopause			Knowledge about menopausal management		
	Mean	**SD**	**'t'**	**Mean**	**SD**	**'t'**
Control	5.23	1.66	.16	5.33	1.61	.48
Experimental	5.06	1.69		5.16	1.71	

P<0.05*

The table 9 revealed that the mean, standard deviation of level of knowledge regarding menopause and menopausal management were same (M=5.23, SD=1.66) in control and experimental group menopausal women. The difference was not statistically significant at p<0.05 level of confidence.

Table .10

Association Between selected Demographic Variables and Menopausal symptoms Before and After Administration of Soya milk in Experimental group of menopausal women.

(N=30)

Demographic variables	Before Administration			After Administration		
	Moderate n	Severe n	χ^2	Mild n	Moderate n	χ^2
Age in years						
40 - 45	1	-	3.681 (d.f = 3)	1	-	9.487* (d.f = 3)
46 - 50	6	1		7	-	
51 - 55	4	5		3	6	
Above 55	9	4		10	3	
Marital Status						
Married	19	10	0.517 (d.f = 1)	20	9	0.443 (d.f = 1)
Unmarried	-	-		-	-	
Widow	1	-		1	-	
Educational Status						
Illiterate	1	3	4.37 (d.f = 3)	2	2	4.48 (d.f = 3)
Primary	7	3		8	3	
Middle	9	2		8	2	
Higher secondary	3	2		3	2	
Graduate and above	-	-		-	-	
Occupation						
Homemaker	16	8	2.400 (d.f = 2)	17	7	2.579 (d.f = 2)
Self employed	4	2		4	2	
Employed	-	-		-	-	
Nature of work						
Sedentary work	1	-	0.662 (d.f = 2)	1	-	0.470 (d.f = 2)
Moderate work	14	8		15	7	
Heavy work	5	2		5	2	
Income per month						
Below 5000	3	0	3.681 (d.f = 3)	**3**	-	6.871 (d.f = 3)
5001 - 10000	9	1		8	4	
10001 - 15000	3	7		4	6	
Above 15000	5	2		6	1	

Food habits						
Vegetarian	2	-	1.071	**2**	**-**	0.918
Non-vegetarian	18	10	(d.f = 1)	19	9	(d.f = 1)
Type of family						
Nuclear family	1	3	3.606	3	1	0.055
Joint family	19	7	(d.f = 1)	18	8	(d.f = 1)
Religion						
Hindu	19	7	3.606	20	8	3.72
Christian	1	3	(d.f = 1)	1	1	(d.f = 1)
Muslim	-	-		-	-	

P<0.05*

The table 10 inferred that there was a significant association between selected demographic variables such as age of menopausal women and menopausal symptoms at ($p<0.05$), hence null hypotheses Ho_2. "There will be no significant association between selected demographic variables and menopausal symptoms in control and experimental group of menopausal women" was rejected.

However there was no significant association between other demographic variables such as marital status, education, occupation ,nature of work, income ,food habits, type of family and religion of menopausal women and menopausal symptoms at ($p<0.05$), hence null hypotheses Ho_2 was retained.

Table .11

Association Between Selected Clinical variables and Menopausal symptoms Before and After Administering Soya milk in the Experimental group of menopausal women.

(N=30)

Clinical variables	Before administration			After administration		
	Moderate n	Severe n	χ^2	Mild n	Moderate n	χ^2
BMI						
<18	-	-	1.667	21	-	7.778*
18.5-24.9	19	8	(d.f=1)	-	6	(df=1)
25-29.9	1	2		-	3	
>30	-	-		-	-	
Body Temperature						
<98.6F	-	-		0	2	5.000*
98.6 - 99 F	14	9	1.491	21	7	(d.f=1)
>99F	6	1	(d.f=1)	-	-	
Pulse rate						
<72 BPM	-	-		5	1	
72 - 80 BPM	18	9	0.000	16	8	0.635
	2	1	(d.f=1)	-	-	(d.f = 1)
>80 BPM						
Systolic Blood Pressure						
<120 mmHg	1	-	0.750	2	2	3.524
120 - 140 mmHg	18	9	(df=2)	19	6	(df=2)
>140 mmHg	1	1		-	1	
Diastolic Blood Pressure						
<80 mmHg	-	-	0.517	2	-	.918
80 - 90 mmHg	19	10	(df=1)	19	9	(df=1)
>90 mmHg	1	-		-	-	
Nature of M.Cycle						
Regular	19	7	3.6.6	19	7	.879
Irregular	1	3	(df=1)	2	2	(df=1)

Type of menopause						
Natural	19	8	1.667	21	6	7.778*
Surgical	1	2	(df=1)	-	3	(df=1)
Duration of menopause						
<1 year	-	-	2.069			2.414
1 - 3 years	20	9	(df=1)	21	8	(df=1)
>3 years	-	1		-	1	

$P<0.05^{*}$

The table 11 inferred that there was significant association between selected clinical variables such as body mass index, body temperature, type of menopause of menopausal women and menopausal symptoms at($p<0.05$), hence null hypotheses Ho_3 "There will be no significant association between selected clinical variables and menopausal symptoms in control and experimental group of menopausal women" was rejected.

However there was no significant association between other clinical variables such as pulse rate, systolic and diastolic blood pressure ,nature of menstrual cycle and duration of menopause of menopausal women and menopausal symptoms at($p<0.05$), hence hypothesis Ho_3 was retained.

Table 12

Association Between Selected Demographic Variables and Menopausal symptoms Before and After Administration of Soya milk in Control group of Menopausal women.

N=30

Demographic variable	Before administration				After administration			
	Mild	Moderate	Severe		Mild	Moderate	Severe	
	n	n	n	χ^2	n	n	n	χ^2
Age in years								
40 - 45	-	-	-		-	-	-	
46 - 50	-	9	2	3.791	-	9	2	3.791
51 - 55	2	5	1	(d.f=4)	2	5	1	(d.f=4)
Above 55	1	7	3		1	7	3	
Marital Status								
Married	3	21	6		3	21	6	
Unmarried	-	-			-	-	-	-
Widow	-	-	-		-	-	-	
Educational Status			-					
Illiterate	-	4	2		0	4	2	
Primary and middle education	2	14	3		2	14	3	
Higher secondary education	1	3	1	1.925 (d.f=4)	1	3	1	1.925 (d.f=4)
Graduate and above	-	-	-		-	-	-	
Occupation		-	-					
Homemaker	3	18	6		3	18	6	
Self employed	-	3	-		-	3	-	
Employed	-		-	1.429 (d.f=2)	-	-	-	1.429 (d.f=2)
Nature of work		-	-					
Sedentary work	-	-	-		-	-	-	
Moderate work	3	21	-		3	21	6	-
Heavy work	-	-	6		-	-	-	

Income per month								
Below 5000	-	2	-	7.500 (d.f =6)	-	2	1	7.500 (d.f = 6)
5001 - 10000	3	12	1		3	12	2	
10001 - 15000	-	3	2		-	3	3	
Above 15000	-	4	3		-	4	-	
Food habits								
Vegetarian	-	6	-	3.214 (d.f =2)	-	6	-	3.214 (d.f = 2)
Non vegetarian	3	15	6		3	15	6	
Type of family								
Nuclear family	-	17	4	8.231 (d.f =2)	-	17	4	8.231 (d.f = 2)
Joint family	3	4	2		3	4	2	
Religion								
Hindu	1	11	4	0.918 (d.f =2)	1	11	4	0.918 (df = 2)
Christian	2	10	2		2	10	2	
Muslim	-	-	-		-	-	-	

Table 12 revealed that there was no significant association between selected demographic variables such as age, marital status, education, occupation, nature of work, income, food habits, type of family, and religion of menopausal women and menopausal symptoms, hence the null hypothesis Ho_2 "There will be no significant association between selected clinical variables and menopausal symptoms in control and experimental group of menopausal women" was retained.

Table 13

Association Between Selected Clinical Variable and Menopausal symptoms Before and After administration of Soya milk in Control group of Menopausal women.

(N=30)

Demographic variables	Before administration				After administration			
	Mild n	Moderate n	Severe n	χ^2	Mild n	Moderate n	Severe n	χ^2
BMI								
<18	-	-	-	3.791 (d.f = 4)	-	-	-	3.791 (d.f =4)
18.5-24.9	2	9	2-		2	9	2-	
25-29.9	2	5	1		2	5	1	
>30	1	7	3		1	7	3	
Temperature								
<98.6F				2.751 (d.f= 2)	1	1	1	2.751 (d.f =2)
98.6 - 99 F	2	20	5		2	20	5	
>99F	-	-	-		-	-	-	
Pulse rate								
<72 BPM	-	-	-	4.451 (d.f = 2)	-	-	-	4.451 (d.f= 2)
72 - 80 BPM	2	20	4		2	20	4	
>80 BPM	1	1	2		1	1	2	
Systolic Blood Pressure								
<120 mmHg	1	2	1	2.679 (d.f = 4)	1	2	1	2.679 (d.f =4)
120 - 140 mmHg	2	18	4		2	18	4	
>140 mmHg	0	1	1		0	1	1	
Diastolic Blood Pressure								
<80 mmHg	1	2	1	1.360 (d.f = 2)	1	2	1	1.360 (d.f =2)
80 - 90 mmHg	2	19	5		2	19	5	
>90 mmHg	-	-	-		-	-	-	
Nature of M.Cycle								
Regular	2	18	5	0.686 (d.f = 2)	2	18	5	0.686 (d.f =2)
Irregular	1	3	1		1	3	1	
Type of menopause								
Natural	3	16	6	2.571 (d.f = 2)	3	16	6	2.571 (d.f =2)
Surgical	0	5	0		0	5	0	
Duration of menopause								
<1 year	-	-	-		-	-	-	
1 - 3 years	3	21	6		3	21	6	
>3 years	-	-	-		-	-	-	

Table 13 depicts that there was no significant association between selected clinical variable such as body mass index, body temperature, pulse rate, systolic and diastolic blood pressure nature of menstrual cycle, type of menopause and duration of menopause of menopausal women and menopausal symptoms, hence the null hypothesis Ho_3 "There will be no significant association between selected clinical variables and menopausal symptoms in control and experimental group of menopausal women" was retained.

Summary

This chapter has dealt with analysis and interpretation of the data obtained by the researcher. The analyses showed that the menopausal symptom was reduced after administration of soya milk. The difference was statistically significant at $p<0.001$ level. This implied that soya milk has effect on menopausal symptoms.

Chapter V

Discussion

CHAPTER V

DISCUSSION

Statement of the Problem

An Experimental Study to Assess the Effectiveness of Soya milk upon Menopausal symptoms among Menopausal women in Selected wards of Thiruverkadu Township.

Objectives of the Study

1. To assess the prevalence of menopausal symptoms among menopausal women in the selected wards of thiruverkadu township.
2. To assess the level of knowledge regarding menopause in control and experimental group of menopausal women.
3. To determine the effectiveness of soya milk by comparing the menopausal Symptoms in experimental group of menopausal women.
4. To determine the level of satisfaction regarding the administration of soya milk in the experimental group of menopausal women.
5. To identify the association between selected demographic variables and the menopausal symptoms in control and experimental group before and after administration of soya milk.
6. To find out the association between selected clinical variables and menopausal symptoms before and after administration of soya milk in the control and experimental group of menopausal women.

The discussion was presented as follows

- Prevalence of menopausal symptoms
- Demographic variables of menopausal women
- Clinical variables of menopausal women
- Assessment of level of knowledge regarding menopause
- Assessment of the level of satisfaction regarding administration of soya milk
- Menopausal symptoms before and after administration of soya milk
- Comparison of mean and standard deviation of severity of menopausal symptoms before and after administration of soya milk
- Comparison of mean and standard deviation of level of knowledge regarding menopause in control and experimental group of menopausal women
- Association between selected demographic variables, clinical variables and menopausal symptoms in the control and experimental group of menopausal women.

Prevalence of menopausal symptoms among menopausal women

The prevalence of menopausal symptoms were assessed, among them there were totally 102 women who attained menopause, among them 21.15% had no symptoms, 78.84% had menopausal symptoms and 90% had natural menopause and 10 % had surgical menopause.

In 2025, India will reach 165 millions. More than 12% of population will be above 60 yrs of age, almost 50% of these will be women, a staggering population in menopausal & post menopausal age, 70% of these populations in Rural India. In our

country the health programmes concentrate only the reproductive age group women, the menopausal age is neglected by all. There is great need to survey and identify the menopausal women in our population which will help to formulate policies and programmes targeting them.

Demographic variables of control and experimental group of menopausal women

Majority of the menopausal women were married (100%, 96.66%). primary school educated (63.33%, 70.00%), home makers (90%, 80%), moderate workers (100%, 73.33%) with monthly income Rs 10,000 and above (56.67%, 33.33%) non vegetarians (80%, 93.33%), living in joint families (70%, 86.67%), Significant of them were between 51-55 years of age (36.67%, 43.33%) .

Bagga (2004) revealed in her descriptive study that the mean age at menopause in Indian women was 45years. Menopausal age is increased due to various factors like life style, dietary pattern etc. which has positive and negative effects to health. The women were primary educated they were not aware of menopause and its symptoms , they thought that symptoms occur due to aging and they ignore to aid medical help due to family commitments.

Majority of the women were home makers hence they were approached by community health nurse during her home visit. She should educate about the symptoms and reduction measures such as exercise, dietary modification including supplementation of soya. In contrast with the hormonal replacement therapy natural remedies are cost effective and free of adverse effects. Hence the nurse has to motivate

the family members to support menopausal women to adapt menopausal changes during their menopausal period.

Clinical variables of control and experimental group of menopausal women

Majority of the menopausal women had body mass index between 18.5-24.9 (86%, 83.33%), body temperature of 98.6-99o F(90%, 80%) pulse rate of 72-82 beats/min (86.67%, 93.33%), systolic blood pressure 120-140mmHg (80%, 83.33%), diastolic blood pressure 80-90mmHg (86.67%, 93.33%), attained menopause before 1-3 years (100%, 96.67%), most of them were natural menopausal women (83.33%, 90%), in control and experimental group respectively.

Sidhu et al. (2000) conducted a cross sectional study on symptoms of menopause in educated women of Amirtasar, 539 women aged 40-50 yrs randomly selected. The most common clinical symptoms associated with menopause were hot flushes and night sweats (55.08%), insomnia (53.12%), headache and body aches (38.28%) fatigue (42.18%), Irritability (35.15 %) palpitation (22.26%), depression (8.20%), nervous tension (10.56%), short breath (20.31%).

Hot flush was common symptom the menopausal women had which is due to the disturbance in thermoregulation. Up to the menopause the women's body is protected by hormones. Once it started to decline women are at risk to get diseases such as osteoporosis, cardio vascular disease, hyperlipidemia. The community health nurse should play a major role to educate and monitor the blood pressure, blood glucose of women at menopausal age, as negligence may put them risk for various diseases

According to the proverb prevention is better than cure early detection of symptoms and treatment provide the quality life to menopausal women.

Assessment of the level of knowledge regarding menopause among menopausal women

Most of them both in control and experimental group had inadequate knowledge regarding menopause (56.66%, 53.33%) and menopausal management (60%, 50%). It is assumed that most of them were not aware of their bodily changes. Since majority were primary educated, mass awareness programme, informal education like role play, puppet show has to be given in order to improve their knowledge. It is consistent with the study conducted by Nusarat et al that among 863 women 680 (78.79%) women had less knowledge, 137 (15.8%) women knew about the physiological changes, 183 (21.2%) perceived symptoms as disease.

Menopausal symptoms before and after administration of soya milk

The findings of the present study revealed that most of the women had moderate level of physiological and psychological symptoms in both control and experimental group before administering soya milk (70%, 66.67%), Majority of the women had mild level of physiological and psychological symptoms in experimental group after administering soya milk (70%). Hence it is evident that soya milk has great impact on menopausal symptoms.

Soya milk rich in isoflavones are plant compounds that are structurally and functionally similar to 17-oestradial soya contain 416 kcal, and macro nutrients

including vitamins, minerals and calcium. It not only acts on oestrdial receptors in addition it contain magnesium and boron which were important of calcium for bone health, isoflavone in soya may inhibit the breakdown of bones.

Assessment of the level of satisfaction regarding administration of soya milk

The researcher found that majority of the menopausal women were highly satisfied regarding administration of soya milk (60%). These findings indicated that administration of soya milk is effective in reducing menopausal symptoms since it is easy to consume and, harmless. So the community health nurse can encourage the menopausal women to take soya milk as supplement to reduce the menopausal symptoms.

Comparison of mean and standard deviation before and after administration of soya milk between control and experimental group of menopausal women

The difference in mean and standard deviation of physiological symptoms (M=18.9, 20.8, SD=3.53, 2.80) and psychological symptoms (M=20.16, 20.46, SD= 2.32, 3.56) before administration of soya milk between control and experimental group of menopausal women is not statistically significant ($p<0.05$). Whereas the difference in mean and standard deviation of physiological symptoms (M=18.7, 14.4, SD=3.54, 4.66) and psychological symptoms (M=20.16, 13.56, SD= 2.40, 4.81) after administration of soya milk between control and experimental group of menopausal women is statistically significant ($p<0.001$). There is significant reduction of physiological and psychological symptoms in experimental group after soya milk

administration which can be attributed to the effectiveness of soya milk. Hence null hypothesis H_{o1} was rejected.

The researcher concluded that the finding must be disseminated so that evidence based knowledge can be utilized in community to reduce menopausal symptoms and also it aid the nursing personnel to concentrate more on alternative therapy rather than hormonal replacement therapy by which we prevent the complication. The study findings were consistent with the research conducted by soundari (2009) study to determine the effect of soya bean Vs breathing exercise upon menopausal symptoms. The study revealed soya bean to be more significant in reduction of menopausal symptoms. Soya contain isoflavone which is phyto oestrogen, it binds the receptors of body part and produce oestrogenic effects.

Association between the selected demographic variables and menopausal symptoms before and after soya milk administration in control and experimental group of menopausal women

In the present study the investigator found that there is a significant association between selected demographic variables and severity of menopausal symptoms in the experimental group after administration of soya milk hence null hypothesis Ho_2 was partially rejected with regard to age. It could be assumed that age is associated with menopausal symptoms; based on the proverb prevention is better than cure, people can adopt the healthy measures like add supplement foods in their diet according to their age to prevent disease and to maintain healthy life.

Association between the selected clinical variables and menopausal symptoms before and after administration of soya milk in control and experimental group of menopausal women

There was a significant association between the selected clinical variables and menopausal symptoms after administration of soya milk. Hence null hypothesis Ho_3 partially rejected with regard to body mass index, body temperature, and type of menopause. It could be assumed that the nurses should focus care for all the clinical symptoms. Women with natural menopause may think that menopausal symptoms are due to aging, surgical menopause women think that symptoms are due to surgery as they are ignorant of menopause after hysterectomy. The community health nurse should focus on educating the women folk belonging to menopausal age about the menopausal symptoms, creating awareness will help them to cope with the problems concerned.

Summary

This chapter has dealt with the objectives of the study, major findings of the demographic and clinical variables of menopausal women, description of severity of menopausal symptoms before and after administration of soya milk and association between the demographic and clinical variables with severity of menopausal symptoms before and after administration of soya milk in the control and experimental group of menopausal women.

Chapter VI

Summary, Conclusion, Implications and Recommendations

CHAPTER VI

SUMMARY, CONCLUSION, IMPLICATIONS, AND RECOMMENDATIONS

The brain of the research project lies in reporting the findings. This is the most creative and demanding part of this study. This chapter gives the brief account of present study, suggestion of the study and nursing implication. This study was intended to analyze the effectiveness of soya milk administration upon menopausal symptoms among menopausal women.

Summary

An Experimental Study to Assess the Effectiveness of Soya milk upon Menopausal symptoms among Menopausal women in Selected wards of Thiruverkadu Township.

Objectives of the Study

1. To assess the prevalence of menopausal symptoms among menopausal women in the selected wards of Thiruverkadu township.
2. To assess the level of knowledge regarding menopause in control and experimental group of menopausal women.
3. To determine the effectiveness of soya milk by comparing the menopausal symptoms in experimental group of menopausal women.
4. To determine the level of satisfaction regarding the administration of soya milk in the experimental group of menopausal women

5. To identify the association between selected demographic variables and the menopausal symptoms in control and experimental group before and after administration of soya milk.
6. To find out the association between selected clinical variables and menopausal symptoms before and after administration of soya milk in the control and experimental group of menopausal women.

Null Hypotheses

Ho_1 There will be no significant difference in menopausal symptoms before and after administration of soya milk between control and experimental group of menopausal women.

Ho_2 There will be no significant association between selected demographic variables and menopausal symptoms in control and experimental group of menopausal women.

Ho_3 There will be no significant association between selected clinical variables and menopausal symptoms in control and experimental group of menopausal women.

The conceptual frame work was based on Lydia hall Core, Care, Cure model which was modified for present study. The extensive review of literature and guidance by experts formed the foundation of the development of the rating scale. An experimental approach with pretest, post test design used to achieve the objective of the study. The present study was conducted in Rajankuppam. Through simple random sampling 30 menopausal women were assigned to control group and 30 menopausal women were assigned to experimental group. The data was collected after getting consent from the sample by using study instruments.

The data was tabulated and analyzed by using descriptive and inferential statistics. Frequency and percentage of demographic variables, clinical variables were done, Mean and standard deviation was done to assess the reduction of menopausal symptoms for both control and experimental group. 't' test was conducted to find out the statistical significance of the difference in reduction of symptoms between the control and experimental group. Chi-square test was conducted to find out the relation ship between the demographic variables, clinical variables and reduction of menopausal symptoms.

Major findings of the study

- The prevalence of menopausal symptoms were assessed, among them there were totally 102 women who attained menopause and among them 21.15% had no symptoms, 78.84% had menopausal symptoms, and 90% had natural menopause and 10 % had surgical menopause.
- Majority of the menopausal women in both control and experimental group were married (100%, 96.66%), educated up to primary school (63.33%, 70.00%), homemakers (90%, 80%), moderate workers (100%,73.33%), with monthly income Rs10,000 and above (56.67%, 33.33%), non vegetarians (80%, 93.33%), and living in joint families (70%, 86.67%). Significant percentage of them were between 51-55years of age (36.67%, 43.33%), most of them in (53.33%) the control group and 86.67 % of the experimental group women were Hindus.
- Majority of the menopausal women had body mass index between 18.5-24.9 (86%, 83.33%), body temperature of 98.6-99^{o} F (90%, 80%), pulse rate of 72-82 beats/min (86.67%, 93.33%), systolic blood pressure of 120-140 mmHg

(80%, 83.33%), diastolic blood pressure of 80-90 mmHg (86.67%, 93.33%), attained menopause before 1-3 years (100%, 96.67%), and most of them had natural menopause (83.33%, 90%), in control and experimental group respectively.

- Most of the menopausal women had moderate level of menopausal symptoms in both control and experimental group before administration of soya milk (70%, 66.67%). Whereas majority of them experienced mild level of symptoms (70%) in experimental group after administration of soya milk.
- The knowledge regarding menopause was found inadequate (60%, 56.67%) in control and experimental group of menopausal women.
- Majority of the menopausal women in experimental group were highly satisfied with administration of soya milk (83.3%) and 16.7% of them were satisfied with administration of soya milk.
- The difference in mean and standard deviation of physiological symptoms (M=18.9, 20.8, SD=3.53, 2.80) and psychological symptoms (M=20.16, 20.46, SD= 2.32, 3.56) before administration of soya milk between control and experimental group of menopausal women is not statistically significant ($p<0.05$). Whereas the difference in mean and standard deviation of physiological symptoms (M=18.7, 14.4, SD=3.54, 4.66) and psychological symptoms (M=20.16, 13.56, SD= 2.40, 4.81) after administration of soya milk between control and experimental group of menopausal women is statistically significant ($p<0.001$). There is significant reduction of physiological and psychological symptoms in experimental group after soya milk administration

which can be attributed to the effectiveness of soya milk. Hence null hypothesis H_{o1} was rejected.

- In experimental group there was significant association between selected demographic variables and menopausal symptoms after administration of soya milk hence null hypothesis Ho_2 was rejected with regard to age.
- In experimental group there was significant association between selected clinical variables and menopausal symptoms after administration of soya milk hence null hypothesis Ho_3 rejected with regard to body mass index, body temperature and type of menopause.
- In control group there was no significant association between selected demographic variables and menopausal symptoms before and after administration of soya milk in the control group hence the null hypothesis Ho_2 was retained.
- In control group there was no significant association between selected clinical variables and menopausal symptoms before and after administration of soya milk in control group hence the null hypothesis Ho_3 was retained.

Conclusion

The findings of the study showed that the effectiveness of soya milk upon menopausal symptoms in experimental group was better than those in the control group. Hence it could be concluded that there is an association between the menopausal symptoms and administration of soya milk. Soya milk is easy to administer and a natural supplement for menopausal women, which can also be prepared at home and consumed.

Implications

The findings of the study have the following implications in the areas of nursing service, nursing education, nursing administration, and research.

Nursing service

It was identified during survey in Rajankuppan village that many women at menopausal age were experiencing menopausal symptoms. Basically it is being neglected by the women and not told out. So the community health nurse needs to give more importance to the women in menopausal age. In hospital, women who underwent hysterectomy (surgical menopause) were not aware of menopause, they only consider the surgery. Nurses in the surgical units need to educate about menopause to those who underwent hysterectomy while discharging the patient. and supportive advice has to be given with regard to following dietary modification (consuming cabbage, beans, soya) to reduce menopausal symptoms.

Nursing education

Menopause and its related issues should be a part of curriculum in subjects such as obstetric and gynecological nursing, community health nursing. Nursing students should be educated them about natural remedies and alternative and complementary therapies for menopause as they take care of the women who undergo surgical hysterectomy. Nursing education must emphasize primary care approach focusing on preventive care. Students can be motivated to conduct mass awareness programs on menopause and its symptoms and management.

Nursing administration

The administrator has the added responsibility in providing the continuing education opportunities on the alternative therapy to the nurses in today's world of advanced technology.

Nurse administrator should take initiative to organize continuing education programes on management of menopausal symptoms with supportive treatments like soya milk supplementation for the nursing personnel in the hospital and in the community setting with modern technological visual aids to enhance knowledge regarding non pharmacological ways of reducing menopausal symptoms.

Nursing research

As a result of growing demand, there is a heightened urgency to expand the evidence based support in use. It opens the big avenue for research on innovative, alternative methods to reduce the menopausal symptoms .Further research need to be conducted to help the menopausal women to come out from their menopausal symptoms. The professional nurses could conduct further studies on the impact of various alternative methods for treating the menopausal symptoms as well as to avoid the use of hormone replacement therapy and its side effects.

Recommendations

The research recommends the following studies in the field of nursing research:-

- The same study could be conducted on larger sample for better generalization
- The study could be replicated in hospitals for hysterectomy clients.
- A study can be conducted on effectiveness of alternative therapies in reducing the severity of menopausal symptoms.

References

REFERENCES

Aaron, R. & Muliyil, J. (2002). Medical social dimensions of menopause. **National Medical Journal of India,** 15(1), 14-17.

Adele, P. (2007). Menopause. **Maternal and child health nursing,** (6th ed), Philadelphia, 102-104.

Albertazzi, A. et al. (2003). Hot flush. **Alternative Medicine review**, 8(3), 290-291. Retrived from http://www.hot_flush.in// pdf.1/12/2012.

Allender, A. (2010). Women's health. **Community Health Nursing**, (7th ed), Lippin cot, 662 – 663.

Aparna, K. & Poshadri A. (2011). Soya bean – A health food. **Health Action, 10** (9), 29- 30.

Bagga, A. (2004) .Age and symptoms of menopause. **Obsterics & Gynecology Today**, 9(8), 301-302.

Begum, M. (2010). **Text book of foods nutrition & dietics**, (3rd ed). New Delhi, Sterling, 34-35.

Chenia, F.M. (2004). Individualising hormone replacement therapy to improve compliance**, Obstetric & Gynecology Today**, 9 (8), 501-505.

Deieling, R. et. al. (2009) Alternative therapy and menopause. **Menopause,** 10 (9), 2-3. Retrieved from http://www.alternative_therapy_menopause/on 12/1/2012.

Dutta. D.C (2005). Physiological changes during menopause. **Text Book of Gynecology,** (6th ed) Calcutta, New Central Book Agency.52-54.

Evelin, R. et al. (2000). Effectiveness of soya extract on hot flush. **Menopause.** Retrieved from http://www.menopause.org/ims. On 5/11/2011.

Hazel, A. (2003). Hot flush – Alternative and complementary treatment approaches. **Alternative medicine review**, 8(3), 284-290. Retrive from http://www.hot_flush. in// pdf on 1/12/2012.

Jacob, C. (2005). Menopause. **A Comprehensive Text book of Midwifery,** (1st ed) Jaypee Brothers, 123.

Jeinkins, D. et al. (2007). Effectiveness of soy based breakfast cereal on blood lipid sand oxidized low density lipo protein. **American Journal of Clinical Nutrition,** 200(49), 1496-5000.

Jha, P. (2004). Cardio vascular and metabolic changes from menopause an ageing, **Obstetrics & Gynecologic Today**, 9(11), 726-729.

Joseph, T. & Calano. (2002). Alternative and complementary healing practices. **Nursing Now Todays issues Tomorrows trends**, (111th ed), Philadhalphia.323-330.

Kala, S. & Kalavathi, S. (2010) .Menopausal Transition. **Nightingale Nursing Times,** 6 (3), 37 – 41.

Kavitha. K. (2010). Effectiveness of vitamin E upon menopausal symptoms, Master dissertation, Tamil nadu Dr.M.G.R. Medical University, retrived on 10/12/2011.

Khalsa, R.Y.T (2004). Reproduction and menopause, **Indian Council of Menopause Society,**1(2), 23-24.

Kuna, A. & Poshadri, A. (2011) . Soya bean – A healthy food. **Health Action,** 5 (6), 29 -30.

Liee, K. (2009). Prevalence of menopause. **Menopause.** 9(6). Retrieved from http:// www. mnopause.org/ims. on 5/1/2012.

Leipert, G. & Reutter, L.(2005). Developing resilience's ; How women maintain their health in northen geographically isolated setting, **A Qualitative Research**, 15(1) ,49-65.

Liji, M. & Mathias, M. (2011). Menopausal depression. **Prisms nursing practice**, 6(3), 123-127.

Lowdermilk, L. & Perry, L. (2000). Menopause. **Maternity Nursing**, (8th ed), Mosby, 441-442.

Mahajan, B. (2010). **Methods in Biostatistics. St. Louis**: Jaypee Brothers Medical Publishers.

Mahmud, L. (2009). Effect of hormonal replacement therapy on menopausal symptoms. **Nightingale Nursing Times,** 6(7), 30-35.

Malhotra, M. (2004). The role of Isoflavone in menopause, **Obstetrics & Gynecology Today**, 9 (11), 741-745.

Malik, S. (2004). phytoestrogen and herbs, **Obstetrics & Gynecology Today**, 9 (11), 739-740.

Marian, M. et al, (2005). The Effect of Education and Awareness on the Quality-of-Life in Postmenopausal Women**, Menopause**, 10 (9). Retrieved from http//www.ims.org./ article on 12/1/2011.

Meeta .N (2004). Patho physiological causes and clinical significance of hotflush, **Obsterics & Gynecology Today, 9** (11) ,723-725.

Mishra, K. (2011)menopausal transition and post menopausal health problems. **Health**,3(4).Retrieved on from: http://www.scirp.org/health on 10/12/2011.

Nisar, R. et al. (2008). Knowledge attitude and experience of menopause. **J Ayub Med Coll Abbottabed,** 20(1)**.** Retrieved from http://www.ayubmed.edu.pk/JAMC/20-1/nisar.pdf on 22/1/2012.

Park, K. (2011) Text book of preventive and social medicine, (21sted)Jabalpur,

Phani, K. et al. (2009). Effects Of soy protein isolate on bone mineral density and physical performance Indices in post menopausal women. **The North American Menopause Society.** 16(20) 320-328. Philadelphia, 80-81.

Pinto, M. (2010). Menopausal problems and their management. **Nightingale Nursing Times,2 (3) ,40-42.**

Polit, F. & Beck, T. (2010). **Nursing Research, generating and assessing evidence for nursing practice**, (8th Ed**).** New Delhi: Lippincott Williams and Wilkins.

Puri, P. et al. (2012). Perception of menopause. **The internet journal of family Practice,** 6(2), 15-17

Shah, S. and Agarwal, S. (2006). Evaluate the effects of a herbo mineral phytoestrogen formulation containing soy isoflavones in Indian women with signs and symptoms of menopause, **Menopause.** 48 (3). Retrieved from http;//www.menopause/ ims on 5/12/2011.

Shah, R. (2004). Menopausal symptoms in urban Indian women, **Obstetrics & Gynecology Today**, 9(10), 667-670.

Sharma, S. et al. (2007). Menopausal symptoms in urban women**. Obstetrics & Gynecology Today,** 9(1), 2-10.

Somekawa, Y. (2007). Effectiveness of isoflaones on menopausal symptoms, lipids profile, bone menieral densities. **Menopause**. Retrieved from http://www.menopause/ ims on 5/12/2011

Soundari, R. (2010). Effectiveness of soya bean versus diaphragmatic breathing exercise. **The Nurse**, 2(3), 27-30.

Syamala, T. & Sivakami, M. (2005).Menopause: Emerging issue in India, **Economic and political weekly**, 40 (47), 19.

Telang, M. (2004).Managing menopause with yoga, **Obstetrics & Gynecology** Today, 9(10), 676-677.

Thakur, S. (2005).A study of gynecological condition in post menopausal women, **Obstetrics & Gynecology Today**, 10 (8), 472 -473.

Appendices

APPENDIX I

LETTER TO SEEKING PERMISSION TO CONDUCT THE STUDY AND PERMITTING TO CONDUCT THE STUDY

Apollo College of Nursing

(Recognised by the Indian Nursing Council and Affiliated to the Tamil Nadu Dr. M.G.R. Medical University, Chennai)

CO/0145/11 **19/03/2011**

To

The Councilor,
Thiruverkadu Township,
Chennai- 77

Respected Sir / Madam,

Sub.: To request permission for research study – Reg.

Greetings! As part of the curriculum requirement our 2nd year M. Sc. (N) student Ms. G.Lourds Bemi. has selected the following title for her research study.

"An Experimental Study to assess the Effectiveness of Soya milk upon menopausal symptoms among primenopausal women in Selected wards in Thiruverkadu Township , Chennai"

So I kindly request your good selves to permit her to use the resource materials for the above-mentioned candidate.

Thanking You,

Dr. LATHA VENKATESAN
PRINCIPAL

தலைவர்
திருவேற்காடு நகராட்சி
சென்னை–600 077.

IS/ISO 9001:2000

Vanagaram to Ambattur Main Road, Ayanambakkam, Chennai - 600 095.
Ph. : 044 - 2653 4387 Tele fax : 044 - 2653 4923 / 044- 2653 4386

APPENDIX II

ETHICAL COMMITTEE CLEARANCE LETTER

Ethics Committee

Apollo HOSPITALS
TOUCHING LIVES

22 June, 2011

To
Ms. G. Lourds Berni
1st – MSC (Nursing)
Dept. of Community Health
Apollo College of Nursing, Chennai
Tamil Nadu, India

Ref: An experimental study to assess the effectiveness of soya milk upon menopausal symptoms among menopausal women in selected wards of Thiruverkadu township

Sub: Your letter dated 9 June, 2011 for approval of the above referenced project and its related documents

Dear Ms. G. Lourds Berni,

Ethics committee – Apollo Hospitals has received the following document submitted by you related to the conduct of the above – referenced study.

- Project "An experimental study to assess the effectiveness of soya milk upon menopausal symptoms among menopausal women in selected wards of Thiruverkadu township"
- Study Performa
- Informed consent form

The above-mentioned documents have been reviewed and approved (through expedited review) by the Chairman, Vice-Chairman and Member Secretary at a specially convened meeting of the Ethics Committee. The study is hereby approved to be conducted by you in the presented form

The following Ethics Committee members were present at the meeting held on 22 June, 2011

Name	Profession	Position in the committee
Mr. S. S. Narayanan	Ethicist	Chairman
Dr.Radha Rajagopalan	Clinician	Vice - Chairman
Dr. Jayanthi Swaminathan	Sr.GM Clinical & Collaborative Research	Member Secretary

Apollo Hospitals Enterprise Limited
21, Greams Lane, Off Greams Road, Chennai - 600 006
Tel : 91 - 44 - 2829 3333 Extn : 6008, 91 - 44 - 2829 5465 Extn : 6639 Fax : 91 - 44 - 2829 4449
E - Mail : ecapollochennai@gmail.com

Ethics Committee

Apollo HOSPITALS
TOUCHING LIVES

After due ethical and scientific consideration, the Ethics Committee has approved the above presentation submitted by you.

The Ethics Committee is constituted and works as per ICH-GCP, ICMR and revised Schedule Y guidelines.

Yours sincerely,

Radhakrishnan

Date 22/6/11

Dr. Radha Rajagopalan
Ethics Committee – Vice Chairman
Apollo Hospitals, Chennai

DR. RADHA RAJAGOPALAN
Vice Chairman
Ethics Committee
Apollo Hospitals Enterprise Limited
Chennai-600 006. Tamil Nadu

Apollo Hospitals Enterprise Limited
21, Greams Lane, Off Greams Road, Chennai - 600 006
Tel : 91 - 44 - 2829 3333 Extn : 6008, 91 - 44 - 2829 5465 Extn : 6639 Fax : 91 - 44 - 2829 4449
E - Mail : ecapollochennai@gmail.com

APPENDIX III
PLAGIARISM ORIGINALITY REPORT

	Plagiarism Detector - Originality Report
	Plagiarism Detector Project: [http://plagiarism-detector.com] Application core verrsion: 557

This report is generated by the unregistered Plagiarism Detector Demo version!

- 600 initial words analysis only
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	Document Words Count:	14903

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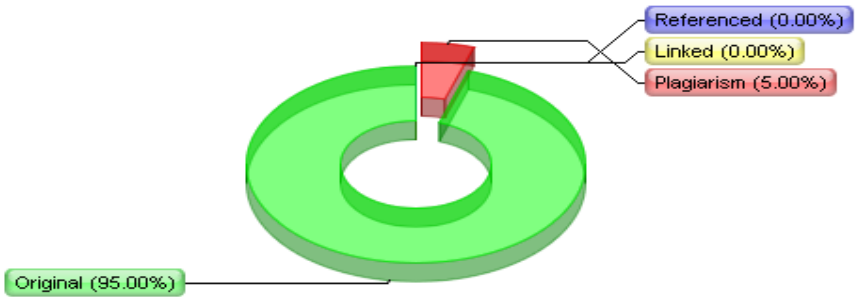

<=""">

Referenced 0% / Linked 0%

Original - 95% / 5% - Plagiarism

APPENDIX IV

LETTER SEEKING PERMISSION FOR CONTENT VALIDITY

From

MS. G.Lourds bemi,

M.Sc., (Nursing) First Year,

Apollo College of Nursing,

Chennai - 600095.

To

Through proper channel,

Dr. Latha Venkatesan,

Principal,

Apollo College of Nursing.

Respected Madam,

Sub: **Requesting for opinions and suggestions of experts for establishing content validity for**

Research tool

Greetings ! As a part of the curriculum requirement the following research title is selected for the study. "An Experimental study to assess the effectiveness of soya milk upon menopausal symptoms among menopausal women in selected wards of Thiruverkadu town ship, Chennai."

I will be highly privileged to have your valuable suggestions with regard to the establishment of content validity of research tool. So I request you to validate my research tool and give suggestions about the tool.

Thanking you,

Date : **Yours sincerely,**

Place: **(G.Lourds bemi)**

APPENDIX V

LIST OF EXPERTS FOR CONTENT VALIDITY

1. **Dr. Latha Venkatesan, M.Sc., M.Phil., Ph.D.,**
   Principal,
   Apollo College of Nursing,
   Chennai – 95.

2. **Dr. Sarat, B. M.D., D.G.O.,**
   Senior Coordinator
   Department of Obstetrics & Gynaecology,
   Apollo Hospitals,
   Chennai – 10.

3. **Prof. Mrs. Lizy Sonia,A. M.Sc (N).,**
   Vice Principal,
   Apollo College of Nursing,
   Chennai – 95.

4. **Mrs. Shobana, G.M.Sc (N).,**
   Professor,
   Apollo College of Nursing,
   Chennai – 95.

5. **Ms.Sasikala D. M.Sc (N).,**
   Reader,
   Apollo College of Nursing
   Chennai – 95

6. **Ms. Helen, M. M.Sc (N).,**
   Lecturer,
   Apollo college of Nursing,
   Chennai – 95.

7. **Ms. Shenbaga valli,V. M.Sc (N).,**
   Lecturer,
   Apollo College of Nursing,
   Chennai – 95.

APPENDIX VI

CONTENT VALIDITY CERTIFICATE

I here by certify that I have validated the research tool of Ms.G.Lourds bemi M.Sc.(Nursing) student who is undertaking research study **.'' An Experimental Study to assess the Effectiveness of Soya milk upon Menopausal symptoms among Menopausal women in selected wards of Thiruverkadu Township, Chennai.**

Signature of Expert

APPENDIX VII

LETTER SEEKING CONSENT FROM PARTICIPANTS

Dear Participant,

I am G.LOURDS BEMI M.Sc Nursing student of Apollo College of Nursing, Chennai. As a part of my study, I have selected a Research Project "An Experimental Study to Assess the Effectiveness of Soya milk upon Menopausal symptoms among Menopausal women in selected wards of Thiruverkadu township Chennai ."

I hereby seek your consent and co-operation to participate in the study. Please be frank and honest in your response. The information collected will be kept confidential and anonymity will be maintained.

Signature of the Researcher

I ……, hereby give my consent to participate in the study.

Signature of the Participant

Muha;r;rpapy; gq;F ngWNthUf;fhd xg;Gjy; gbtk;

md;GilaPh;

ehd; mg;NghNyh nrtpypah; fy;Y}hapy; KJfiyr; nrtpypah; gapw;rp ngWk; khztp. vd;Dila gapw;rpapd; xU gFjpahf khjtpyf;F mile;j ngz;fspd; mwpFwpfis Fiwg;gjpy; Nrhahghypd; gq;fpid gw;wp mwpa Ma;T nra;a cs;Nsd;. ,e;j Muha;r;rpapd; KbTfs; ,JNghd;w mwpFwpfis Fiwg;gjw;F cjtpahf mikAk;.

,jdhy; ,e;j Muha;r;rpapy; ePq;fs; gq;F ngw cq;fSila xg;Gjy; kw;Wk; xj;Jiog;igAk; Ntz;LfpNwd;. jaT nra;J cq;fSila gjpypy; ntspg;gilahfTk;> cz;ikahfTk; ,Uf;fTk;. cq;fSila Fwpg;Gfs; ,ufrpakhf itf;fg;gLk; kw;Wk; cq;fSila ngah; NtW vq;NfAk; ntspaplg;glkhl;lhJ.

Muha;r;rpahshpd; ifnahg;gk;

..... vd;w ehd; ,e;j Muha;r;rpapy; gq;F ngw xg;Gjy; mspf;fpd;Nwd;.

gq;F ngWNthhpd; ifnahg;gk;

APPENDIX VIII

CERTIFICATE FOR ENGLISH EDITING

TO WHOMSOEVER IT MAY CONCERN

This is to certify that the dissertation "A Experimental study to assess the effectiveness of soya milk upon menopausal symptoms among menopausal women in selected wards of thiruverkadu township, Chennai." by Ms. G. Lourds bemi, II Year M.Sc(N), Apollo College of Nursing was edited for English language appropriateness by

Signature

K. SANKARARAJ B.Sc, M.A, M.Ed,
M.A, P.B [illegible], O S A C.M.
Teacher in English (HS)
T.I.D. Sri Venkateswara H.S. School
Vellore - 632001.

APPENDIX IX

CERTIFICATE FOR TAMIL EDITING

TO WHOMSOEVER IT MAY CONCERN

This is to certify that the tool for Demographic variable proforma, Clinical Variable proforma, Structured knowledge questionnaire, Rating Scale on menopausal symptoms and Level of Satisfaction about administration of soya milk, translated by Ms. M. G.Lourds Bemi, II Year M.Sc (N) student, Apollo College of Nursing for her dissertation "**An Experimental Study to Assess The Effectiveness of Soya milk Upon menopausal Symptoms among Menopausal in Selected wards of Thiruverkadu Township, Chennai"** was edited for Tamil language appropriateness by

Signature

Signature

S. VALARNILA, M.A., B.Ed.,
SCHOOL ASSISTANT
JAIGOPAL GARGDIA GOVT.
HR. SEC. SCHOOL,
TVT, CHENNAI-600 019.

APPENDIX X

DEMOGRAPHIC VARIABLE PROFORMA OF MENOPAUSAL WOMEN

Purpose

This preformed is used by researcher to collect the information on demographic variables such as age, education, marital status, work status, income type of family, home remedies, sleep pattern, level of activity.

Instruction

The researcher collects the following information from the participant by asking question in the interview form. Please be frank and free in answering, it will be kept confidential anonymity will be maintained.

1. Sample number:

2. Age in years

2.1 40-45 ☐

2.2 46-50 ☐

2.3 51-55 ☐

2.4 56 and above ☐

3. Marital status

3.1 Single ☐

3.2 Married ☐

3.3 Unmarried ☐

3.4 Widow ☐

4. Education status

4.1 Illiterate ☐

4.2 Primary and middle school education ☐

4.3 Higher secondary education ☐

4.4 Graduate and above ☐

5. Occupation

5.1 Home maker ☐

5.2 Self employed ☐

5.3 Employed ☐

5.4 Others ☐

6. Nature of work

6.1 Sedentary work ☐

6.2 Moderate work ☐

6.3 Heavy work ☐

6.4 Others ☐

7. Income per month

7.1 Below 5000 ☐

7.2 5001- 10000 ☐

7.3 10001 – 15000 ☐

7.4 Above 15000 ☐

8) Food habits

8.1 Vegetarian ☐

8.2 Ova vegetarian ☐

8.3 Lacto vegetarian ☐

8.4 Non vegetarian ☐

9. Type of family

9.1 Nuclear family ☐

9.2 Joint family ☐

9.3 Extended family ☐

9.4 Others ☐

10. Religion

10.1 Hindu ☐

10.2 Christian ☐

10.3 Muslim ☐

10.4 Others ☐

r%f kw;Wk; FLk;g tptuq;fis mwpAk; gbtk;

Nehf;fk;

,e;j gbtk; cq;fs; FLk;g kw;Wk; nghUshjhu Fwpg;Gfshfpa cq;fSila taJ> fy;tp jFjp> njhopy;> Ntiy nra;Ak; Kiw> tUkhdk;> FLk;g tif> Mfpatw;iw mwpe;J nfhs;s gad;gLfpwJ.

mwpTiu

Ma;thsh; gpd;tUk; jfty;fis gq;Nfw;gthplkpUe;J Neh;fhdy; Kiwapy; Nfs;tpfis Nfl;Lg;ngWthh;. jaT$h;e;J gjpy; mspg;gjpy; ntspg;gilahfTk;> Rje;jpukhfTk; ,Uf;fTk; cq;fs; gjpy;fis ufrpakhf fUjg;gLk;.

1. tupir vz;

2. taJ

3. jpUkz jFjp

3.1. jdpegh; ☐

3.2. jpUkzkhzth; ☐

3.3. tpthfuj;jhdth; ☐

3.4. tpjit ☐

4. fy;tpj;jFjp

4.1. fy;tp fw;fhjth; ☐

4.2. cah; kw;Wk; Nky;epiy fy;tp ☐

4.3. gl;ljhhp kw;Wk; mjw;Fk; Nky; ☐

5. njhopy;

5.1. tPl;il guhkhpg;gth; ☐

5.2. Ra njhopy; nra;gth; ☐

☐

5.3. Ntiyf;F nry;gth;

6. Ntiy nra;Ak; Kiw

6.1. Fiwe;j msT ciog;gth; ☐

6.2. kpjkhd ciog;gth; ☐

6.3. fbdkhd ciog;gth; ☐

7. FLk;gj;jpd; khj tUkhdk;

7.1. 3000 ☐

7.2. 3001-6000 ☐

7.3. 6001-9000 ☐

7.4. 9001 ☐

8. czTg; gof;fk;

8.1. irtk; ☐

8.2. mirtk; ☐

9. FLk;g tif

9.1. jdpf;FLk;gk; ☐

9.2. $l;L FLk;gk; ☐

9.3. gpwtif ☐

10. kjk;

10.1 ,e;J ☐

10.2 fpwpj;Jth; ☐

10.3 ,];yhkpah; ☐

☐

10.4 kw;w kjj;jpdh;

APPENDIX XI

CLINICAL VARIABLE PROFORMA OF MENOPAUSAL WOMEN

Purpose

This preforma is used to identify the clinical variable such as height, weight, BMI, Bp, pulse, estrogen level etc.

Instruction

The researcher used to various measures to monitor the clinical variable parameters.

1. Height

2. Weight

3. Body mass index

3.1 < 18.5 ☐

3.2 18.5- 24.9 ☐

3.3 25- 29.9 ☐

3.4 > 30 ☐

4. **Body Temperature**

4.1 < 98.6F ☐

4.2 98.6 – 99 F ☐

☐

4.3 > 99 F

5. **Pulse rate**

5.1 < 72 bpm ☐

5.2 72- 80 bpm ☐

5.3 > 80 bpm ☐

6. **Systolic blood pressure**

6.1 < 120 mmHg ☐

6.2 120 – 140 mmHg ☐

6.3 > 140 mmHg ☐

7. **Diastolic blood pressure**

7.1 < 80 mmHg ☐

7.2 80 – 90 mmHg ☐

7.3 > 90 mmHg ☐

8. Nature of menstrual cycle before menopausal

8.1 Regular ☐

8.2 Irregular ☐

9. Type of menopause

9.1 Natural ☐

9.2 Surgical ☐

10. Duration of menopause

10.1 < 1 year ☐

☐

☐

10.2 1-3 year

10.3 > 3 year

APPENDIX XII

BLUE PRINT FOR MENOPAUSAL SYMPTOM ASSESSMENT RATING SCALE

Physiologic symptoms	1.1,1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 1.9, 1.10	10	50
Psychological symptoms	2.1,2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 2.10	10	50
	Total	**20**	**100**

APPENDIX XII

RATING SCALE ON MENOPAUSAL SYMPTOMS

Purpose

This rating scale is used assessment of the symptoms of the participants regarding menopausal symptoms among menopausal women.

Instruction

Instructor conduct interview and place (✓) against never experienced, rarely experienced, frequently experienced, daily experienced.

According to the presence of symptoms scoring will be done. The information collected will be kept confidential and anonymity will be maintained.

S.no	Menopausal symptoms	Never experienced	Rarely experienced	Frequently experienced	Daily experienced
	Physiologic symptoms				
1.1	Hot flush				
1.2	Sweating				
1.3	Dizziness				
1.4	Fatigue				

1.5	Insomnia				
1.6	Decreased libido				
1.7	Muscle pain and joint pain				
1.8	Dryness of the vulva and decreased secretion				
1.9	Burning frequent micturation				
1.10	Tingling of extremities				
	Psychological symptoms				
2.1	Nervousness				
2.2	Feeling fear and anxiety				
2.3	Depression				
2.4	Irritability				
2.5	Mood swings				
2.6	Feeling aggressive				
2.7	Feeling sad				
2.8	Restlessness				
2.9	Forget fullness				
2.10	Headache				

Scoring key

Never experienced – 0

Rarely experienced – 1

Frequently experienced – 2

Daily experienced – 3

Interpretation score

Score	Percentage	Categories
0-30	<50	Mild
31-45	51-75	Moderate
46-60	>76	Severe

khjtpyf;F epd;wgpd; Vw;gLk; mwpFwpfis msf;f cjTk; ju msT Nfhy;

Nehf;fk;:

,e;j ju msTnfhy; khjtpyf;F epw;ff; $ba epiyapy; cs;s ngz;fspd; kw;Wk; khjtpyf;F epd;wgpd; Vw;gLk; mwpFwpfis msf;f cjTfpwJ.

mwpTiu

Ma;thsh; Neh;fhzy; %yk; nra;J fPNo nfhLf;fg;gl;Ls;s mDgtk; ,y;iy> vg;nghOjhtJ mbf;fb kw;Wk; jpdKk; ,itfspy; rhpahdij FwpapLthh;.

mwpFwpfspd; mbg;gilapy; kjpg;gPLfs; toq;fg;gLk;. ,jd; %yk; fpilf;Fk; cq;fs; gjpy;fs; ufrpakhfTk; gj;jpukhfTk; itf;fg;gLk;.

thpir vz;	**khjtpyf;F**	**mDgtk; ,y;iy**	**mbf;fb mDgtk;**	**jpdKk; mDgtk;**	**vg;nghOjhtJ**
1.	**clypd; Njhd;Wk; mwpFwpfs;**				
1.1	cly;epiy ntg;gepiy jPBnud;W mjpfkhjy;				
1.2	xOq;fw;w khjtpyf;F				

1.3	Mjpfkhf tpah;j;jy;				
1.4	cly; Nrhh;T				
1.5	J}f;fkpd;ik				
1.6	ghypay; czh;T Fiwjy;				
1.7	Jir kw;Wk; %l;Ltyp				
1.8	gpwg;GWg;G cyh;e;J ,Uj;jy; kw;Wk; Rug;gp Fiwjy;				

1.9	rpWePh; fopf;Fk; NghJ vhpr;ry;				
1.10	iffhy; Filr;ry;				
2	**kd mwpFwpfs;**				
2.1	cly; eLf;fk;				
2.2	gak; kw;Wk; glglg;G				
2.3	kd mOj;jk;				
2.4	kd vhpr;rpy;				
2.5	kdk; miygha;jy;				
2.6	Mj;jpukiljy;				
2.7	Nrhfkhf czh;jy;				
2.8	xUepiyg;ghL ,y;yhik				
2.9	kwjp				
2.10	jiy typ				

APPENDIX XIII

BLUE PRINT FOR STRUCTURED KNOWLEDGE QUESTIONS ON MENOPAUSE

Item	Item no	Total no of item	Percentage
Knowledge about menopause	1, 2, 3, 4, 5, 6, 7, 8, 9, 10	10	50
Menopausal Management	11, 12, 13, 14, 16, 15, 17, 18, 19, 20	10	50

APPENDIX XIII

STRUCTURED INTERVIEW SCHEDULE ON KNOWLEDGE REGARDING MENOPAUSE

Purpose

This structured interview schedule is used to collect information on knowledge of menopausal women regarding management of menopausal symptoms.

Instruction

The structured interview schedule consists of multiple choice questions, when I read the questions please give your answer for each question.

Please frank your response. This information collected will be kept confidential and anonymity will be maintained.

1. Menopause means

a. Permanent cessation of menstruation ☐

b. Unable to do the activities ☐

c. Unable to produce child ☐

d. Retaining of waste blood in the uterus ☐

2. Menopause occurs due to reduction of

a. Calcium minerals ☐

b. Hormone estrogen ☐

c. Tissue growth ☐

d. Teeth ☐

3. Menstruation pattern prior to menopause is

a. Sudden cessation of menstruation ☐

b. Regular menstruation ☐

c. Irregular menstruation ☐

d. Gradual, irregular scanty or excess bleeding ☐

4. Hot flush means

a. Shivering ☐

b. Profuse sweating ☐

c. Sudden onset of feeling of warmth ☐

d. Palpitation ☐

5. The common psychological symptoms during menopause are,

a. Restless, mood changes ☐

b. Anxiety, irritability, insomnia and depression ☐

c. Ringing in ear, tingling of extremities ☐

d. No psychological changes ☐

6. Sagging of breast during menopausal period is due to

a. Lack of muscle tone ☐

b. Glands atrophy ☐

c. Old age ☐

d. Lack of conception ☐

7. The main skin change observed in menopausal women is

a. Pubic and vulval rashes ☐

b. Dryness and itching of vulva ☐

c. Swelling of vulva ☐

d. Yellowish pigmentation ☐

8. During menopausal period the ovaries become

a. Shrink and wrinkled ☐

b. Big and enlarge ☐

c. Normal ☐

d. Fluid filled cavity ☐

9. The reason for developing coronary heart disease during menopausal period is

a. Reduction of blood count ☐

b. Reduction of hormone estrogen ☐

c. Reduction of cholesterol ☐

d. Reduction of calcium ☐

10. The common urinary symptoms during menopause is

a. No symptoms ☐

b. Retention of urine ☐

c. Dysuria and burning micturition ☐

d. Incontinence ☐

11. During menopausal period the women need to take

a. Normal diet ☐

b. Low calcium and high calorie diet ☐

c. High calcium and moderate calorie diet ☐

d. High fat and calcium diet ☐

12. The main supportive measure to reduce the back pain is

a. Doing mild exercise ☐

b. Taking high calorie diet ☐

c. Taking complete bed rest ☐

d. Avoiding strenuous activities ☐

13. During menopausal period soya milk is given for the purpose of

a. Reduction of blood sugar level ☐

b. Reduction of menopausal symptoms ☐

c. Reduction of cholesterol level ☐

d. Reduction of blood pressure ☐

14. The main reason for giving calcium supplementation is

a) To reduce coronary heart disease ☐

b) To increase body weight ☐

c) To reduce osteoporosis and fracture ☐

d) To reduce body weight ☐

15. The profuse sweating is reduced by

a. Using light clothes ☐

b. Sitting under the fan ☐

c. Taking bath ☐

d. None of the above ☐

16. The food items should included during menopausal phase are

a. Dark green levy vegetables ☐

b. Oil and fatty acids ☐

c. Spicy foods ☐

d. None of the above ☐

17. During psychological disturbance the women can adopt the coping strategy is

a. Engage in self care activities ☐

b. Follow a regular schedule of exercise ☐

c. Visit a family doctor ☐

d. Bed rest ☐

18. The main source of information about menopause is

a. News paper ☐

b. TV and Radio ☐

c. Family members and friends ☐

d. Health personnel ☐

19. During menopausal problem the women should

a. Seek help from a neighbor ☐

b. Consult a gynecologist ☐

c. Take home remedies ☐

d. Neglect the problem ☐

20. During menopausal phase the women expect support from

a. Spouse and family members ☐

b. Friends ☐

c. Neighbours ☐

d. None of them ☐

KEY

1.	**a**	**11.**	**c**
2.	**b**	**12.**	**a**
3.	**d**	**13.**	**b**
4.	**c**	**14.**	**c**
5.	**b**	**15.**	**a**
6.	**b**	**16.**	**a**
7.	**b**	**17.**	**a**
8.	**a**	**18.**	**d**
9.	**b**	**19.**	**b**
10.	**c**	**20.**	**a**

Interpretation of score

Score	**Percentage**	**Level of knowledge**
0-1	<50	Inadequate
11-15	51-75	Moderately adequate
16-20	<76	Adequate

khjtpyf;fpd; NghJ Vw;gLk; mwpFwpfis mwpa cjtk; tbtikf;fg;gl;l Neh;fhzy; gbtk;

Nehf;fk;

,e;j tbtikf;fg;gl;l Neh;fhzy; gbtk;> khjtpyf;F epw;Fk;NghJ Vw;gLk; mwpFwpfs; gw;wpa tptuq;fis ePq;fs; ve;j msTf;F mwpe;Js;sPh;fs; vd;gij mwpa cjTfpwJ.

mwpTiu

,e;j tbtikf;fg;gl;l Neh;fhzy; gbtj;jpy; xt;nthU Nfs;tpf;Fk; ehd;F tpilfs; mspf;fg;gl;Ls;sd.

- ehd; Nfl;Fk; Nfs;tpfis ftdpj;J mjw;fhd gjpiy mspf;fTk;.
- jaT nra;J cz;ikahd gjpiy mspf;fTk;.

ePq;fs; mspf;Fk; tptuq;fs; kw;Wk; cq;fisg; gw;wpa Fwpg;Gfs; midj;Jk; ufrpakhf itf;fg;gLk;.

1. khjtpyf;F epw;gJ vd;gJ

m. cjpug;Nghf;F epue;jukhf epd;WNghjy; ☐

M. khjtplha; Row;rpapd; Jtf;f epiy ☐

,. Foe;ij ngw ,ayhik ☐

<. gpwg;GWg;gpy; nfl;l ,uj;jk; epd;W tpLjy; ☐

2. vjd; Fiwthy; khjtplha; epd;Wg;NghfpwJ.

m. fhy;rpak; kw;Wk; jhJ cg;Gfs; ☐

M. <];lNuh[d; Rug;gp ePh; ☐

,. jpR tsh;r;rp ☐

<. vYk;G tsh;r;rp ☐

3. khjtpyf;F epw;gjw;F Kd; khjtplha; Row;rpapd; jd;ik

m. cjpug;Nghf;F jpBnud epd;Wg;Nghjy; ☐

M. rPuhd cjpug;Nghf;F ☐

,. rPuw;w cjpug;Nghf;F ☐

<. rhjhuzkhf rPuw;w Fiwthd my;yJ mjpfkhd cjpug;Nghf;F ☐

4. clypd; ntg;g mjpfhpg;G vd;gJ

m. cly; eLf;fk; ☐

M. mjpfkhf tpah;j;jy; ☐

,. jpBnud cly; ntg;gk; mjpfhpg;gjhf Njhd;Wjy; ☐

<. glglg;G ☐

5. khjtpyf;fpd; NghJ Vw;gLk; kdrk;ke;jg;gl;l mwpFwpfs;

m. glglg;G> epiyaw;w kdepiy ☐

M. J}f;fkpd;ik> kd mOj;jk;> gak;> vhpr;ry; ☐

,. fhjpy; ,iur;ry; Nfl;ly;> if fhy; Fj;jy; ☐

<. clypd; khWjy; vJTkpy;iy ☐

6. khj tpyf;fpd; NghJ khh;gfk; jsh;e;J Nghtjw;fhd fhuzk;

m. jir typikf; Fiwjy; ☐

M. Rug;gpfs; nraypoj;jy; ☐

,. taJ Kjph;r;rp miltjhy; ☐

<. Foe;ij ngw ,ayhik ☐

7. khj tpyf;F epd;wg; ngz;fSf;F

m. ghypay; cWg;Gfspd; vhpr;ry; ☐

☐

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M. ghypay; cWg;G cyh;e;J Nghjy; kw;Wk; mhpg;G

,. ghypay; cWg;Gfs; tPq;Fjy;

<. ghypay; cWg;Gfs; kQ;ry; epakhf khWjy;

8. khj tpyf;F epw;Fk; fhyj;jpd; rpidg;igapy; Vw;gLk; khw;wk;

m. RUq;fp msT Fiwjy; ☐

M.tPf;fkile;J nghpjhFjy; ☐

,. ve;jtpj khw;wKk; ,y;iy ☐

<. ePh;Nfhh;j;jy; ☐

9. khjtpyf;F epw;Fk; fhyj;jpy; ,jaNeha; Vw;gLtjw;fhd fhuzk;

m. ,uj;j mZf;fspd; vz;zpf;if Fiwtjhy; ☐

M. Rug;gp ePh; <];l;Nuh[d; Fiwtjhy; ☐

,. nfhOg;G rj;J Fiwtjhy; ☐

<. fhy;rpak; Fiwtjhy; ☐

10. khj tpyf;F epw;Fk; fhyj;jpy; Vw;gLk; rpWePuf mwpFwpfs;

m. ve;j mwpFwpAk; my;iy ☐

M. rpWePh; Njf;fk; ☐

,. rpWePh; fopj;jypd; rpukk; ☐

<. rpWePh; jhdhf ntspNaWjy; ☐

11. khj tpyf;F epd;wpgpd; ngz;fs; Nrh;j;J nfhs;s Ntz;ba czTfs;

m. rhjhuz czT ☐

M. Fiwe;j fhy;rpak; kw;Wk; mjpf fNyhhp rj;J ☐

,. mjpf fhy;rpak; kw;Wk; kpjkhd fNyhhp rj;J ☐

<. mjpf nfh*g;G kw;Wk; fhy;rpak; rj;J ☐

12. khj tpyf;F epd;wg;gpd; Vw;gLk; KJFtypia Fiwf;f Nkw;nfhs;s Ntz;bait

m. kpjkhd clw;gapw;rp ☐

M. mjpf msT fNyhhp rj;J czit cl;nfhs;Sjy; ☐

,. xa;T vLj;jy; ☐

☐

<. fbd ciog;ig jtph;j;jy;

13. khj tpyf;F epw;Fk; fhyj;jpy; Nrhah ghy; Fbg;gjd; Nehf;fk;

m. ,uj;j rh;f;fiu msitf; Fiwg;gJ ☐

M. khj tpyf;F epd;wg;gpd; tUk; gpur;ridfisf; Fiwg;gJ ☐

,. nfh*g;gpd; msitf; Fiwg;gJ ☐

<. ,uj;j mOj;jj;ijf; Fiwg;gJ ☐

14. fhy;rpak; ,izAztpd; Kf;fpa fhuzk;

m. ,ja Neha; jtph;f;f ☐

M. cly; vilia mjpfhpf;f ☐

,. vYk;G Kwpit jtph;f;f ☐

<. cly; viliaf; Fiwf;f ☐

15. mjpf tpah;itiaf; Fiwf;f

m. nky;ypa Mil mzpa Ntz;Lk; ☐

M. kpd; tprpwpapd; fPo; mku Ntz;Lk; ☐

,. Fspf;f Ntz;Lk; ☐

<. Nkw;$wpa vJTkpy;iy ☐

16. khj tpyf;F epw;Fk; fhyj;jpy; cztpy; Nrh;j;Jf; nfhs;s Ntz;ba czTfs;

m. gr;ir fhz;fwpfs;> fPiu tiffs; ☐

M. vz;nza; kw;Wk; nfhOg;G rhh;e;j nghUl;fs; ☐

,. fhukhd czTfs; ☐

<. Nkw;$hpa vJTkpy;iy ☐

17. kd mOj;jj;ij jtph;f;fg; ngz;fs; ifahs Ntz;ba top Kiwfs;

m. if Ntiyfspy; <LgLjy; ☐

M. jtwhky; clw;gapw;rp nra;jiyg; gpd;gw;Wjy; ☐

,. FLk;g kUj;Jtiu re;jpj;jy; ☐

<. xa;T kUj;Jtiu re;jpj;jy; ☐

18. khj tpyf;F epw;gJg;gw;wpaj; jftiy nfhLf;Fk; Kf;fpa

m. nra;jpjhs; ☐

M. njhiyf;fhl;rp kw;Wk; thndhyp ☐

,. FLk;gj;jpdh; kw;Wk; ez;gh;fs; ☐

<. kUj;Jtj; Jiwia rhh;e;jth;fs; ☐

19. khj tpyf;F epd;wgpd; Vw;gLk; gpur;ridfSf;F

m. mz;il tPl;Lf;fhuh;fs; kw;Wk; ez;gh;fsplk; MNyhrid ngWjy; ☐

M. kUe;Jtiu re;jpj;jy; ☐

,. tPl;L kUj;Jtk; nra;jy; ☐

<. jhdhf rhpahf tpl;LtpLjy; ☐

20. khj tpyf;F epd;w ngz;fs; vjph;ghh;f;Fk; cjtp

m. fzth; kw;Wk; FLk;gj;jpdhpkpUe;J ☐

M. ez;gh;fsplkpUe;J ☐

,. kUe;Jth;fsplkpUe;J ☐

<. ahhplkpue;Jk; ,y;iy ☐

APPENDIX XIV

BLUE PRINT ON LEVEL OF SATISFACTION REGARDING

ADMINISTRATION OF SOYA MILK

Item	**Item no**	**Total no of item**	**Percentage**
About Researcher interaction	1.1,1.2,1.3,1.4	4	33
Administration of soya milk	2.1,2.2,2.3,2.4,2.5,2.6	6	50
Effects of soya milk	3.1,3.2	2	17

APPENDIX XIV

RATING SCALE ON LEVEL OF SATISFACTION REGARDING ADMINISTRARION OF SOYA MILK

Purpose

This rating scale is designed to assess the level of satisfaction of menopausal women with menopausal symptoms regarding administration of soya milk and this assessed by the researcher after therapy.

Instruction

There are 12 items given below, kindly listen the item, Responses extent from highly satisfied to highly dissatisfied. Describe your satisfaction regarding the soya milk. Give your response freely and frankly the response will be kept confidential and anonymity will be maintained.

S.no	Item	Highly satisfied	Satisfied	Dissatisfied	Highly dissatisfied
1.1	**Researcher interaction** Explanation by the researcher regarding soya milk administration				
1.2	Communication by researcher				
1.3	Method of evaluation by researcher				
1.4	Time spend by the researcher in administering soya milk				

	Administration of soya milk				
2.1	Frequency of administration				
2.2	Duration of administration				
2.3	Cost of soya milk				
2.4	Amount of soya milk				
2.5	Taste of soya milk				
2.6	Time of administration				
	Effects of soya milk				
3.1	Reduction of physiological symptoms				
3.2	Reduction of psychological symptoms				

Score

Highly satisfied -4

Satisfied -3

Dissatisfied -2

Highly dissatisfied -1

Interpretation of score

Score	**Percentage**	**Level of satisfaction**
1-12	<25	Highly dissatisfied
13-24	26-50	Dissatisfied
25-34	51-75	Satisfied
35-48	>76	Highly satisfied

Nrhah ghy; cl;nfhs;Sjypd; jpUg;jpia msf;Fk; ju msTNfhy;

Nehf;fk;

,e;j ju msTNfhy; khj tpyf;F epd;wngz;fspd; Nrhah ghy; cl;nfhs;Sjypd; jpUg;jpapd; msit mwpa tbtikf;fg;gl;Ls;sJ.

mwpTiu

,q;F gd;dpnuz;L jdp tptuq;fs; fPNo nfhLf;fg;gl;Ls;s Muha;r;rpahsh; ,g;gbtj;jpid gbf;Fk; NghJ jaT nra;J ftdpj;J cq;fspd; gjpy;fis mspf;fTk;. xt;nthU Nfs;tpapYk; kpfTk; jpUg;jpahf cs;sjh Kjy; kpfTk; mjpUg;gjp tiu gjpy;fs; nfhLf;fg;gl;ls;sd. ,tw;wpy; Nrhahghy; cl;nfhs;Sjypd; cq;fSila jpUg;jpapd; msit njhptpf;fTk;. cq;fs; gjpy;fis gakpd;wp xspT kiwtpd;wp njhptpf;fTk;. cq;fs; gjpy;fs; gj;jpukhf ghJfhf;fg;gLk;.

thpir vz;	**tptuq;fs;**	**kpfTk; jpUg;jp**	**jpUg;jp**	**kpfTk; mjpUg;jp**	**mjpUg;jp**
1.	**Nrhahghy; cl;nfhs;Sjy; gw;wpa Muha;r;rpahshpd; tpsf;fk;.**				
1.2.	Muha;r;rpahsh; nra;jpfis gfhph;e;J nfhs;Sk; Kiw				
1.3.	Muha;r;rpahsh; mwpFwpfis msf;f gad;gLj;jpa kjpg;gPL Kiw				
1.4.	Nrhahghy; nfhLg;gjw;F Muha;r;rpahsh; nrytopj;Jf; fhy msT				
2.	**Nrhah ghy; cl;nfhs;Sjy;**				
2.1	mbf;fbj; jUtJ				

2.2	cl;nfhs;Sjypd; fhy msT				
2.3	Nrhah ghypd; tpiy kjpg;G				
2.4	Nrhah ghypd; msT				
2.5	Nrhah ghypd; Rit				
2.6	cl;nfhs;Sk; Neuk;				
3.	**Nrhah ghypd; tpisTfs;**				
3.1	cly; nray;gl;L mwpFwpfs; FiwT				
3.2	kd mwpFwpfs; FiwT				

APPENDIX XV

DATA CODE SHEET

AGE – Age in years

1. 40-45 years 2. 46-50 years
3. 51-55 years 4. above 55 years

MS – Marital status

1. Single 2. Married
3. Unmarried 4. Widow

EDU- Educational status

1. Illiterate
2. Primary and middle education
3. Higher secondary education
4. Graduate

OCC–Occupation

1. Home maker 2. Self employed
3. Employed

NW-Nature of work

1. Sedentary work 2. Moderate work
3. Heavy work

IPM-Income per month

1. <5000
2. 5001-10000
3. 10001-15000
4. >15001
5. **FM-** Food habits
6. 1. Vegetarian 2. Ova vegetarian
7. 3. Lacto vegetarian 4. Non vegetarian

TF- Type of Family

1. Joint family 2. Nuclear family
3. Extended family 4. Others

REL- Religion

1. Hindu, 2.Christian
3. Muslim 4.Others

Ht – height; **Wt** – Weight

BMI – Body mass index

1.<18.5 2.18.5 -24.9 3.25- 29.9 4. >30

Tem- Body Temperature

1. <98.6 2. 98.6-99 3. >99

PR-Pulse rate

1. <72p/min 2.72-80 p/min 3.>80 p/min

SBP – Systolic blood pressure

1. <120 mmHg 2. 120-140 mmHg3. > 140 mmHg

DBP-Diastolic blood pressure

1.>80 mmHg2.80 – 90 mmHg3.>90 mmHg

NMC –nature of menopause before menopause

1. Regular 2. Irregular

TM- Type of menopause

1. Natural 2. Surgical

DM -Duration of menopause

1. <1yr 2.1-3 yrs 3.> 3yrs

ROM-Rating scale on menopausal symptoms

LOK- Level of knowledge

LOS-Level of satisfaction

APPENDIX XVI

MASTER CODE SHEET

CON GROUP	DEMOGRAPHIC VARIABLES									CLINICAL VARIABLES										BA		AA		LOK		LOS	
	AGE	MS	ES	OCC	NW	IPM	FH	TF	Rel	HT	Wt	BMI	TEM	PR	SBP	DBP	NMC	TM	DM	SC	Int	SC	Int	SC	int	SC	int
1	1.2	2.2	3.1	4.1	5.2	6.1	7.1	8.1	9.1	150	50	2	4.2	5.2	6.2	7.2	8.2	9.2	10.2	32	2	32	2	9	1		
2	1.2	2.2	3.1	4.1	5.2	6.2	7.4	8.1	9.1	158	56	2	4.2	5.2	6.2	7.1	8.1	9.1	10.2	34	2	35	2	8	1		
3	1.3	2.2	3.3	4.1	5.2	6.2	7.4	8.1	9.1	150	52	2	4.2	5.2	6.2	7.2	8.1	9.1	10.2	40	2	40	2	10	1		
4	1.4	2.2	3.3	4.1	5.2	6.2	7.4	8.1	9.1	153	55	2	4.2	5.2	6.2	7.2	8.1	9.1	10.2	42	2	41	2	15	2		
5	1.4	2.2	3.2	4.1	5.2	6.4	7.4	8.1	9.1	151	56	3	4.1	5.2	6.3	7.2	8.1	9.1	10.2	29	1	29	1	13	2		
6	1.2	2.2	3.2	4.1	5.2	6.4	7.4	8.1	9.1	160	63	2	4.2	5.2	6.2	7.2	8.1	9.1	10.2	47	3	46	3	14	2		
7	1.2	2.2	3.2	4.1	5.2	6.4	7.4	8.1	9.2	158	45	2	4.2	5.2	6.2	7.2	8.1	9.1	10.2	48	3	48	3	15	2		
8	1.3	2.2	3.2	4.2	5.2	6.4	7.1	8.2	9.2	146	45	2	4.1	5.3	6.2	7.2	8.1	9.1	10.2	50	3	49	3	12	2		
9	1.2	2.2	3.2	4.2	5.2	6.2	7.1	8.1	9.1	150	48	2	4.2	5.2	6.2	7.2	8.2	9.2	10.2	34	2	34	2	5	1		
10	1.4	2.2	3.2	4.1	5.2	6.2	7.4	8.1	9.1	159	50	2	4.2	5.2	6.2	7.2	8.2	9.1	10.2	47	3	46	3	6	1		
11	1.2	2.2	3.1	4.1	5.2	6.2	7.4	8.1	9.1	145	42	2	4.2	5.2	6.1	7.2	8.1	9.1	10.2	48	3	48	3	7	1		
12	1.2	2.2	3.1	4.1	5.2	6.3	7.4	8.2	9.1	152	56	2	4.2	5.2	6.3	7.1	8.1	9.1	10.2	39	2	39	2	10	1		
13	1.2	2.2	3.3	4.1	5.2	6.2	7.4	8.2	9.2	147	48	2	4.1	5.2	6.1	7.2	8.1	9.1	10.2	43	2	43	2	10	1		
14	1.2	2.2	3.2	4.1	5.2	6.1	7.4	8.1	9.1	150	49	2	4.2	5.2	6.2	7.2	8.1	9.1	10.2	42	2	42	2	15	2		
15	1.4	2.2	3.2	4.2	5.2	6.3	7.4	8.1	9.2	150	52	2	4.2	5.2	6.2	7.2	8.1	9.2	10.2	45	2	45	2	14	2		
16	1.4	2.2	3.2	4.1	5.2	6.2	7.4	8.1	9.2	145	46	2	4.2	5.3	6.2	7.2	8.1	9.1	10.2	41	2	41	2	13	2		
17	1.3	2.2	3.2	4.1	5.2	6.2	7.4	8.1	9.1	150	47	2	4.2	5.2	6.2	7.2	8.1	9.1	10.2	38	2	35	2	14	2		
18	1.3	2.2	3.2	4.1	5.2	6.2	7.4	8.1	9.1	159	60	2	4.2	5.2	6.1	7.2	8.1	9.1	10.2	35	2	35	2	9	1		
19	1.3	2.2	3.3	4.1	5.2	6.2	7.4	8.1	9.1	155	59	2	4.2	5.2	6.2	7.2	8.1	9.1	10.2	36	2	36	2	8	1		
20	1.4	2.2	3.2	4.1	5.2	6.2	7.4	8.1	9.2	150	48	2	4.2	5.2	6.2	7.2	8.1	9.1	10.2	37	2	37	2	10	1		
21	1.4	2.2	3.2	4.1	5.2	6.3	7.4	8.2	9.2	150	50	2	4.2	5.2	6.2	7.2	8.2	9.1	10.2	28	1	28	1	6	1		
22	1.3	2.2	3.1	4.1	5.2	6.3	7.4	8.1	9.1	160	67	3	4.2	5.3	6.1	7.2	8.1	9.1	10.2	36	2	35	2	14	2		
23	1.4	2.2	3.1	4.1	5.2	6.3	7.1	8.1	9.1	145	40	2	4.2	5.2	6.2	7.1	8.1	9.1	10.2	25	1	25	1	13	2		
24	1.2	2.2	3.3	4.1	5.2	6.1	7.4	8.1	9.2	150	50	2	4.2	5.2	6.2	7.2	8.1	9.1	10.2	46	3	46	3	12	2		
25	1.3	2.2	3.2	4.1	5.2	6.3	7.4	8.1	9.2	150	50	2	4.2	5.2	6.2	7.2	8.1	9.2	10.2	37	2	37	2	9	1		
26	1.4	2.2	3.2	4.1	5.2	6.2	7.4	8.2	9.2	153	53	2	4.2	5.3	6.2	7.2	8.1	9.1	10.2	32	2	32	2	10	1		
27	1.4	2.2	3.2	4.1	5.2	6.2	7.4	8.1	9.2	150	53	2	4.2	5.2	6.2	7.2	8.1	9.1	10.2	34	2	34	2	8	1		
28	1.4	2.2	3.2	4.1	5.2	6.2	7.4	8.2	9.2	159	50	2	4.2	5.2	6.2	7.2	8.1	9.1	10.2	40	2	39	2	8	1		
29	1.2	2.2	3.2	4.1	5.2	6.2	7.4	8.2	9.2	154	50	2	4.2	5.2	6.2	7.1	8.1	9.1	10.2	41	2	41	2	14	2		
30	1.4	2.2	3.2	4.1	5.2	6.2	7.4	8.2	9.2	146	58	3	4.2	5.2	6.2	7.2	8.2	9.2	10.2	40	2	40	2	9	1		

	DEMOGRAPHIC VARIABLES									CLINICAL VARIABLE										BA		AA		LOK		LOS	
S.NO	Age	MS	ES	OCC	NW	IPM	FH	TF	REL	Ht	WT	BMI	TEM	PR	SBP	DBP	NMC	TM	DM	Sco	Int	Sco	Int	sco	int	sco	int
1	50	2.2	3.2	4.1	5.3	6.1	7.4	8.2	9.1	160	50	1.2	4.1	5.1	6.1	7.2	8.1	9.1	10.2	37	2	21	1	13	2	45	4
2	50	2.2	3.2	4.1	5.3	6.1	7.4	8.1	9.1	146	42	1.2	4.2	5.2	6.1	7.2	8.1	9.1	10.2	48	3	22	1	12	2	48	4
3	45	2.2	3.2	4.1	5.2	6.2	7.4	8.1	9.1	147	46	1.2	4.2	5.2	6.2	7.2	8.1	9.1	10.2	42	2	16	1	12	2	45	4
4	48	2.2	3.1	4.1	5.2	6.3	7.1	8.1	9.2	157	60	1.2	4.2	5.2	6.2	7.2	8.1	9.1	10.2	37	2	22	1	9	1	43	4
5	54	2.2	3.2	4.1	5.1	6.2	7.4	8.1	9.1	150	50	1.2	4.2	5.2	6.2	7.2	8.1	9.1	10.2	43	2	39	2	5	1	36	4
6	52	2.2	3.2	4.1	5.3	6.3	7.4	8.1	9.1	150	49	1.2	4.2	5.2	6.2	7.2	8.1	9.1	10.2	47	3	31	2	7	1	36	4
7	58	2.4	3.2	4.1	5.2	6.3	7.4	8.1	9.1	145	47	1.2	4.2	5.2	6.2	7.1	8.1	9.1	10.2	46	3	16	1	8	1	38	4
8	57	2.2	3.2	4.1	5.2	6.2	7.4	8.1	9.1	154	46	1.3	4.2	5.2	6.2	7.2	8.1	9.1	10.2	35	2	12	1	12	2	48	4
9	56	2.2	3.1	4.1	5.2	6.3	7.4	8.1	9.2	158	50	1.3	4.1	5.2	6.2	7.2	8.2	9.1	10.3	50	3	44	2	14	2	48	4
10	54	2.2	3.2	4.1	5.2	6.4	7.1	8.1	9.1	143	42	1.2	4.1	5.2	6.2	7.2	8.1	9.2	10.2	46	3	40	2	15	2	48	4
11	57	2.2	3.2	4.1	5.2	6.2	7.4	8.1	9.1	151	52	1.2	4.2	5.2	6.3	7.2	8.1	9.1	10.2	47	3	35	2	15	2	42	4
12	53	2.2	3.2	4.1	5.2	6.4	7.4	8.1	9.1	150	58	1.3	4.2	5.2	6.2	7.2	8.1	9.1	10.2	46	3	44	2	12	2	46	4
13	57	2.2	3.2	4.1	5.2	6.3	7.4	8.1	9.1	158	52	1.2	4.2	5.1	6.2	7.2	8.2	9.1	10.2	46	3	35	2	15	2	35	3
14	54	2.2	3.1	4.1	5.2	6.2	7.4	8.1	9.1	146	50	1.2	4.2	5.2	6.2	7.2	8.1	9.1	10.2	49	3	44	2	15	2	34	3
15	58	2.2	3.2	4.1	5.2	6.3	7.4	8.2	9.2	156	60	1.2	4.2	5.2	6.2	7.2	8.1	9.2	10.2	38	2	24	1	6	1	35	3
16	56	2.2	3.3	4.1	5.2	6.4	7.4	8.1	9.1	154	58	1.2	4.2	5.2	6.1	7.2	8.2	9.1	10.2	35	2	30	1	8	1	36	4
17	56	2.2	3.2	4.1	5.3	6.2	7.4	8.1	9.1	146	50	1.2	4.1	5.2	6.2	7.2	8.1	9.1	10.2	36	2	29	1	13	2	45	4
18	57	2.2	3.2	4.2	5.2	6.4	7.4	8.1	9.1	160	56	1.2	4.2	5.2	6.2	7.2	8.1	9.1	10.2	39	2	30	1	10	1	48	4
19	58	2.2	3.1	4.2	5.2	6.3	7.4	8.1	9.1	156	58	1.2	4.2	5.2	6.2	7.2	8.1	9.1	10.2	45	2	30	1	9	1	35	3
20	57	2.2	3.2	4.2	5.3	6.3	7.4	8.1	9.1	145	50	1.2	4.1	5.2	6.1	7.2	8.1	9.1	10.2	32	2	22	1	7	1	36	4
21	54	2.2	3.3	4.2	5.2	6.1	7.4	8.1	9.1	145	55	1.2	4.2	5.2	6.2	7.2	8.1	9.2	10.2	40	2	23	1	12	2	45	4
22	52	2.2	3.2	4.1	5.3	6.2	7.4	8.1	9.1	158	52	1.3	4.2	5.2	6.2	7.2	8.1	9.1	10.2	50	3	44	2	11	2	45	4
23	51	2.2	3.3	4.2	5.2	6.4	7.4	8.2	9.1	148	50	1.2	4.2	5.2	6.2	7.1	8.1	9.1	10.2	44	2	30	1	12	2	46	4
24	48	2.2	3.2	4.4	5.3	6.4	7.4	8.1	9.1	150	55	1.3	4.1	5.2	6.2	7.2	8.2	9.1	10.2	31	2	30	1	10	1	48	4
25	50	2.2	3.2	4.1	5.2	6.2	7.4	8.1	9.1	149	50	1.2	4.2	5.2	6.2	7.2	8.1	9.1	10.2	32	2	25	1	14	2	35	3
26	50	2.2	3.3	4.1	5.2	6.4	7.4	8.1	9.2	154	56	1.2	4.2	5.2	6.2	7.2	8.1	9.1	10.2	39	2	28	1	9	1	36	4
27	48	2.2	3.2	4.1	5.2	6.3	7.4	8.1	9.1	162	65	1.2	4.2	5.2	6.2	7.2	8.1	9.1	10.2	38	2	20	1	7	1	35	3
28	52	2.2	3.2	4.1	5.2	6.3	7.4	8.2	9.1	151	56	1.3	4.2	5.2	6.2	7.2	8.1	9.1	10.2	35	2	30	1	5	1	36	4
29	56	2.2	3.1	4.1	5.2	6.2	7.4	8.1	9.1	155	40	1.2	4.2	5.2	6.2	7.2	8.1	9.1	10.2	45	2	19	1	4	1	40	4
30	56	2.2	3.3	4.1	5.2	6.2	7.4	8.1	9.1	147	42	1.2	4.2	5.2	6.2	7.2	8.1	9.1	10.2	40	2	23	1	7	1	40	4

APPENDIX XVII
AREA MAP